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BICYCLING IN ITS RELATION TO HEART DISEASE.*

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IT has been shown, particularly by Allbutt¹ and Da Costa,² that continued work at laborious avocations and continuous activity of a milder sort, such as long marches of soldiers, may produce not only functional disorder of the heart, but actual disease of the heart and blood-vessels as well. I propose in this paper to discuss the effect of another kind of continued muscular exertion on the heart, namely, bicycling. In the consideration of the subject I shall divide the riders into two classes, the untrained and the trained. First the untrained. Under this class I include those who are learning to ride and those who ride for pleasure or business only, in contradistinction to the athletic amateur or professional rider.

The accident that these riders are most liable to is dilatation of the heart, and particularly of the right heart, which may be permanent or may last for but a short time. Acute dilatation happens in this wise: Under the stress of prolonged and severe muscular activity the demand for pure blood in the tissues is greatly increased. This is met at first by more rapid breathing and accelerated heart action. But if the demand be too long continued or through special causes, like rapid hill climbing, be too greatly increased, the right heart cannot send the blood rapidly enough through the lungs. Some remains in the right ventricle at the end of each contraction. This amount increases with each cardiac cycle and the cavity is stretched. The rider is now out of breath. If the task he has set out to accomplish is too great, and if he persists the dilated ventricle fails to act, and unconsciousness ensues. Through the cessation of bodily action the heart is relieved of its burden and resumes its function if it have sufficient vitality. On the other hand, if it be diseased death may ensue.

The following cases are examples of this accident, and they illustrate different conditions under which it may happen: Herschell³ was riding with a friend who was new to the wheel. After pushing up a long

hill he noticed that his companion was much exhausted, that his face was pale and his lips blue. He was obliged to dismount and lie upon his back on the grass. Examination showed marked dilatation of the right heart, feeble impulse, and rapid pulse. After an hour he was able to resume his journey, and in the evening the heart was normal.

A patient of mine had a similar experience. He was riding with his sister, and at the summit of a long and gradual ascent reached out to help his companion by pushing her over the crest, when he fell from his wheel unconscious. He soon recovered, and after a time proceeded on his ride. This man was about thirty-five years of age, and had ridden the bicycle for several years. Of late years his health had been very good, though he suffered somewhat from dyspepsia. As a child, however, he was delicate. His father died of heart disease. I have never had an opportunity to make a satisfactory examination of his heart. Once, however, I had occasion to spray into his nose for the purpose of an examination a four-per-cent. solution of cocaine. Pronounced and distressing cardiac symptoms immediately ensued, which lasted to a greater or less degree for several hours. At this time I made a superficial examination, but detected no lesion.

A retired wine merchant, while riding over a level road at a moderate pace fell from his wheel and soon died. Autopsy showed rupture of a heart diseased with fatty degeneration, and also a stomach full of an undigested meal.⁴

These are instances of acute dilatation occurring, first in healthy persons who are subjecting themselves to severe exercise, when, as the horsemen would say, they are "soft;" secondly, of those who are inured to the exercise, but who have weak hearts, and, thirdly, of those whose hearts are actually diseased.

It is well recognized that dilatation of the heart occurs in the course of severe illness, and particularly when there is marked febrile movement. Under these conditions there are two factors to be considered in its production: First, the integrity of the heart-muscle, and, second, the resistance to be overcome. In disease the nutrition of the heart may suffer more or less, according to the amount of toxic products which are circulating in the blood. There may be obstacles to the blood-current, as, for instance, a consolidated lung.

*Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

The problem is not so clear in the question of dilatation from severe muscular exertion in the well. At first sight it would seem that neither of these factors is present, because physiologically increased activity of the body in the open air would seem to purify the blood, and increased muscular exertion would send it more freely through the tissues. This is true up to a certain limit, and that limit depends upon the relation of two factors, the amount of work to be done, and the ability of the organism to do it. To quote Gibson:⁴ "There is one consideration (in the production of dilatation) that must not be overlooked. While the effect of stimulating a muscle in experimental physiology is to accelerate the flow of blood through it, the effect of long-continued muscular action must be to form a large number of waste products, and it will necessarily follow that the blood may have greater difficulty in passing through the tissues after it has been loaded with such substances. The mere muscular exertion, moreover, involved in long-continued efforts is to increase intrathoracic pressure, and this, added to the greater impurity of the blood, will interfere with the functions of the right side of the heart."

In bicycling a proof of the existence of toxic matters in the blood is found in the so-called fatigue fever, which is produced by the absorption of toxins into the blood. In its milder forms it is not uncommon. A personal experience furnishes a good example. One hot day last August with a party I rode over a hilly road to the foot of a small mountain, ascended the mountain, and returned home. The trip occupied the entire day, from 9 A.M. to 5 P.M., with a short rest at the top of the mountain. I was on a tandem bicycle, accompanied on the ride out by a child of ten, and on the return by a lady. I was not particularly tired on my return. During the night, however, I became very restless and could not sleep. My pulse was rapid though regular, and I felt very hot. The experience was so novel, and to me then unaccountable, that I could explain it only on the supposition that I was coming down with some acute illness. After a very uncomfortable night and an unsuccessful attempt to breakfast, I remained in bed during the entire day. I was not a novice at the wheel, having ridden a good deal for ten years. In some instances there is much more cardiac disturbance, and an irritable condition of the heart persists for several days.

The second factor in the production of permanent dilatation of the heart is increased peripheral resistance. This ensues in part as a consequence of the accumulation of toxic products in the blood and in part in the stasis that occurs in the lung

owing to the inadequate action of the right heart. Add to these causes the occasional severe strain of spurring and rapid hill climbing and the crouching attitude of the scorcher, and we have causes adequate for much trouble. It thus appears that bicycling may furnish the two conditions for the production of permanent dilatation of the heart, namely, toxins in the blood and increased peripheral resistance.

Dilatation is not the only evil to be feared. Valvular disease may result as well. The auriculoventricular orifices undergo changes in dilatation of the cavities, and thus their dimensions are considerably increased. As a consequence of this the cusps of the valves do not meet as perfectly as in health. In acute illness a murmur, which later disappears, may be heard at these orifices. Under these conditions both the muscular walls and the auriculoventricular ring have not stretched beyond the limits of a possible return to the normal condition. Even if a ventricle weakened by disease has become dilated it is possible by rest and proper treatment to bring about either a restoration to the normal condition or a compensatory hypertrophy. It is doubtful if such a process is possible to an over-distended auriculoventricular ring, and as the cusps remain the same size a permanent disability of the valve must follow.

Let us now consider the effect of the exercise upon the trained rider. The claim is put forth that there can be no danger to men, and indeed women, of this class, since they never are distressed by their exertions. But an examination into the conditions shows that this reasoning does not hold good.

Hypertrophy of the heart as the result of continued and severe muscular effort is regarded as physiological. Thus the hearts of race-horses and greyhounds are found to be greatly hypertrophied. Moreover, teachers of gymnastics tell us that the best results in the development of the peripheral muscles are attained by continued exercise against slight resistance rather than vigorous action against great resistance. According to Gibson, a prominent feature in the production of pathological hypertrophy of the heart is its rapid action. Da Costa found hypertrophy to result from the irritable condition which he described in soldiers. Osler says that the condition (*i. e.*, irritable heart) is not infrequent in civil life among young men, and it leads in some cases to hypertrophy of the heart. Herschell is of the opinion that hypertrophy may result from long-continued palpitation.

We have seen that one of the characteristic features of fatigue fever from bicycling is long-con-

tinued acceleration of the pulse. This acceleration also occurs without any fever or uncomfortable sensations. It has been found by a number of experiments with different classes of riders—men, boys, and girls—riding over roads of different grades and against head winds, that after riding at a certain rate, the pulse being counted, if the speed be increased the pulse-rate increases in greater ratio, and that too with the rider feeling no sense of fatigue. Thus the pulse-rate was found to increase from a normal of 72, 74, 80, and 84 to 112, 130, and 140, and in some instances this increased rate was maintained for several hours.

Riders of this class do not suffer from the accumulation of toxic substances in the blood as do their less vigorous companions, and the blood is sent through the tissues with greater freedom. But still there is a certain amount of resistance to be overcome, and when we add to these two factors, namely, long-continued, rapid movement and slight peripheral resistance, a third, good nutrition which is the result of bodily well-being produced by training in the open air, it is readily seen that we have the conditions most favorable to the production of cardiac hypertrophy. This does not mean that all trained bicycle riders suffer from hypertrophied hearts, medically speaking, because their training and life enable them to maintain the nutrition of the heart as well as that of the body at such a state as to fully compensate any alteration of structure. It is said, however, that athletes are liable to rapid deterioration of health when they relinquish their active exercises.*

What is the effect of such overexertion on the blood-vessels? As Allbutt has well said, the muscular ventricle may grow both in size of its cavity and in the thickness of its walls, but the walls of the aorta suffer under greater limitations; its power of resistance is great, but its activity is nothing more than the recoil of elastic fibers. Such repeated stretching results not in increased strength, but rather in weakness, as one of the coats may give way and pouching result, or an endoarthritis ensue, or indeed incompetence of the aortic valves follow.

Lannois' reports a case of rupture of one of the aortic cusps. It occurred in a man, aged thirty-eight years, during a ride from Paris to Madrid, a distance of 1452 kilometers, in nine days. There was not at any time pain or other evidence of the accident, nor was his health impaired, and the lesion was discovered some time later rather by accident.

To summarize: Acute dilatation of the heart is an accident that may be expected from overexertion in an unathletic rider, and if the conditions be re-

peated permanent dilatation, especially of the right heart, may result with a consequent damage to the auriculoventricular valves. And, secondly, in the athletic hypertrophy may be produced with a possible consequence of disease of the aorta and incompetence of the aortic valve.

In discussing the application of these principles I shall consider three classes of riders: First, young children; second, young adults; third, persons approaching middle life and the unhealthy. Fortunately, in the past the price of a bicycle has precluded its use as a mere toy, and very young riders have been comparatively few. Still one sees them not only in the parks and streets, but in the country as well far from home. I can see no justification whatever for this practice. Boys and girls under thirteen or fourteen should not be allowed to take rides into the country where they may get far from home, and be subject to unwise exertion of a long ride or immoderate hill climbing. I doubt, too, the wisdom of allowing a young child to ride *ad libitum* even in the park or on asphalted streets. The sport is fascinating and not fatiguing, and it is not an uncommon experience to see young children riding hour after hour. Even on a level space, as we have seen, and entirely within the range of non-fatigue, the heart's action may be accelerated, and this increased activity may persist long after the riding is over for the day. Nor does the child escape more serious consequences, as this incident, which occurred in my neighborhood, shows: The child was a girl of twelve, previously fairly healthy. It had been noticed, however, that she got out of breath easily while riding. One afternoon she went into the country, which was rather hilly, with friends for a ride. Nothing unusual was noticed except that she was somewhat out of breath going up hills. She took tea with a friend, and after the meal again rode about the square, this place being slightly hilly also. On going to bed she had some gastric distress, and the family physician was called. He regarded the symptoms as due to indigestion, and prescribed accordingly. The child's room adjoined that of her mother. The latter was wakened in the night by her daughter's distressed breathing. Before help could be called the child died. There was no autopsy, but it is apparent that death was due to acute dilatation of an unhealthy heart pressed upon by a distended stomach.

In the second class of cases, healthy young adults, there is need of precaution against excessive hill climbing and very rapid riding, as the following cases show: C. F., aged twenty years, employed in a sewing-machine factory, consulted me for relief of a frothy expectoration. His family and personal his-

tory was good. He had been a bicycle athlete, and had ridden in many races. His early symptoms were cough, a feeling of substernal oppression, and uncomfortable sensations referred to the cardiac area. He stopped riding and grew better, to resume it after a winter, only to be obliged to discontinue it altogether. His throat and lungs were without evidence of disease. The impulse of the heart, which was feeble, was felt in the sixth interspace just inside the nipple line. The sounds were fairly pure in character, but faint over the tricuspid area, while over the aortic and pulmonic areas the first sound could not be heard at all. In this instance there was dilatation following hypertrophy.

In the following case the opposite conditions prevailed, first dilatation, then hypertrophy: H. B., aged twenty six years. Before the age of twenty he had always been well. Then he began to ride the bicycle. He lived in a very hilly town, was a scorcher, rode a wheel with eighty gear, and never got off for a hill. Presently he found himself unable to ride, and for some time after giving up the wheel was not in good health, having frequent fainting spells. He gradually grew better, and resumed riding but in moderation. His heart presented these features when I examined him five years after his illness: The apex-beat was apparently to the right of and below the ensiform appendix, really the impulse of a hypertrophied right ventricle. There was decided pulsation over the lower right portion of the sternum. Dulness extended one and one-half inches to the right of the median line and three inches to the left at the level of the fourth rib. The first sound over the epigastrium was impure. The pulse was 120 and regular. The rapid pulse was due to the excitement of the examination. He said it was usually 72. But this acceleration showed that the heart was irritable.

In this connection it would be interesting to learn the experience of the surgeons who examined recruits for the army in the late war. I have been able to find but one. In an article in the *Medical Standard*, detailing the results of the physical examination of 9901 officers and men of the Illinois National Guard, Lieutenant-Colonel Charles Adams, speaking of the heart, says: "In the preliminary examination of recruits made by medical officers of different regiments before leaving their home stations many cases of bicycle heart were discovered and the men not allowed to enlist. These were characterized by hypertrophy and dislocation of the apex-beat, with irregular or rapid beat."

Da Costa's tables show that fully two-thirds of his cases happened from the sixteenth to the twenty-fifth year, while the great percentage was from the

twentieth to the twenty-fifth. These figures are fairly reliable for our present purposes, because our army was recruited from men of the same class as our bicycle army. Men then, and women also, who take to the wheel between the ages of twenty-five and thirty-five, if healthy, are little liable to trouble because their physical powers are matured, and also because as a class they are not apt to indulge in the excesses of the more youthful.

From the age of forty, however, conditions are likely to be different. Those who begin to ride at this time in their life are the man of leisure or the bookkeeper or clerk, people who have spent the greater part of their life indoors, have very probably been high livered, and as a consequence suffer from faulty nutrition. To such the bicycle may be a blessing or a positive danger. Proper regard for hills, excessive exercise against high winds, rough roads, and the gear of the wheel will make the exercise beneficial, while one indiscreet overexertion may cause irreparable injury.

And, lastly, those who seek medical advice for ill health, such as dyspepsia. In all such cases before advising the use of the bicycle the heart should be carefully examined, for it must be remembered that the symptoms for which the patient seeks relief may derive their origin from some disorder of the heart or blood-vessels. Indeed, instances are on record of persons by bicycling, at first getting much relief from their dyspeptic or gouty symptoms, only later to fall victims to fatal disease of the heart. Under these conditions an examination of the heart should be exhaustive by the use of every means at our disposal—palpation, percussion, mensuration, and auscultation. The slightest deviation from the normal condition, whether it be in the character of the sounds, the relative intensity of the first and second sound in any area, their relative intensity in different areas, the rhythm of the heart, the character of the impulse, the condition of the arteries should be carefully noted, for it may be the heart that presents no gross lesion is the dangerous one, and the one that soonest breaks down under a severe strain.

Even if cardiac or circulatory lesions are found it does not follow that the bicycle should be forbidden, but it must be prescribed. Definite regulations must be laid down as to the character of the road, the length of periods of exercise, the kind of wheel, and the size of the gear. From personal experience I feel sure that proper bicycle riding will materially strengthen a weak heart, as it undoubtedly improves the general nutrition of the body. My contention is not that bicycling is a harmful mode of exercise. Indeed, I hold to the opposite view very

strongly. Bicycling is productive of great good, both in the way of health and of pleasure. But at the same time we must recognize the fact that it presents peculiar temptations to excessive exertion that is dangerous.

The athlete will probably go his way without asking or taking our advice. But we should be in a position to influence the youth in our midst, and especially those who seek medical advice. If the bicycle is prescribed as a therapeutic agent for any trouble including disease of the heart it must be carefully prescribed, and not merely recommended, leaving the patient to his own inclinations and possible indiscretions.

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THE PROGNOSIS OF PNEUMONIA IN ITS RELATION TO ITS ETIOLOGY.¹

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THE clinical picture presenting in acute lobar pneumonia is so constant in its essential features, while its pathology is so comparatively undeviating, that a single well-defined case may be taken as a type from which variations are few and unimportant. Its pathologic aspect is clear, well defined, and characteristic, and in that sense pneumonia is always one and the same disease, whether primary or secondary, mild or severe, and whether terminating by crisis or lysis, recovery or death. For this reason I think we have come to base the prognosis too much upon the physical condition and environment of the patient and too little upon the etiology of the disease, which, it is scarcely necessary to demonstrate, is by no means always one and the same.

Pneumonia is a term applied to a pathologic condition, the chief and characteristic lesion of which is found in the lung. It was employed to denote an acute lobar consolidation before the bacterial origin of such a condition was discovered, and it is, unfortunately, still employed indiscriminately to describe a pathologic process which, however uniform

its morbid anatomy, is not at all so in its causative factors. It is time, therefore, it seems to me, in the light of present knowledge, that we cease to apply this term to all acute lobar consolidations; or, better still, that we, continuing to use the term purely with reference to its characteristic anatomic lesion, shall in every case modify it by a proper adjective to denote the true nature of the disease process as relates to its etiology. In other words, that we shall name each pneumonia for its ultimate causative factor so far as it is possible. As, for instance, "pneumococcic" pneumonia, "streptococcic" pneumonia, "influenza" pneumonia, etc. I maintain that it is just as unwarrantable to neglect the exact determination of this feature in pneumonia as it would be in a case of suspected phthisis. Indeed, the steps necessary to be taken for this end are equally simple and very similar in both phthisis and pneumonia.

When this procedure shall have become a practice the prognosis in lobar pneumonias will cease, to a very large extent, to be based upon "personal equation," and we shall be eminently better qualified to estimate upon the probable course and outcome of the disease. Moreover, the knowledge thus added at the outstart will, no doubt, simplify and make more exact the treatment of the individual case. Vital statistics, when compiled with this feature in view, will have much more meaning, and for their practical application they will possess a much greater value to the sanitarian.

It is my object here, however, simply to point out the importance of ascertaining the nature of a pneumonia with relation to its etiology for the purpose of more accurately prognosticating the issue in any given case. To illustrate this point, permit me to cite briefly from my records of several typical cases among those which have come under my observation since having had this feature in mind.

CASE I.—Male, between fifty and sixty years of age, farmer by occupation. The history of the attack was typical. After a hard day's work, during which the patient felt as well as ever, he was suddenly taken with a severe rigor, followed by fever and attended by sharp pain in the right chest; a dry cough, followed by "brick-dust" expectoration in due time, great prostration, and at times a low delirium. Toward the end of the second week his temperature became remittent, with afternoon exacerbations and occasional sweating.

I saw the case in consultation early in the fourth week in the afternoon. The patient's temperature was 103° F.; pulse, 110. There was complete dulness over the lower right lobe, less marked over the middle lobe, and quite perceptible over the left lower lobe. Vesicular murmur was lost in the middle, right and lower portion of the lower left lobes,

¹ Read before the Michigan State Medical Society at Kalamazoo, Mich., May 4, 1899.

and no respiratory sounds whatever were to be heard over the lower right lobe. Expectoration was profuse and of a dirty brick-dust color. The urine was non-albuminous, responding negatively to Ehrlich's diazo-test.

Microscopic examination of the sputum demonstrated the presence in enormous number of the pneumococcus of Fraenkl, with practically no other micro-organisms. (This was rather unexpected in view of the remittent character of the temperature and the sweating, which suggested sepsis.) The diagnosis, based upon the findings, was acute pneumococcal lobar pneumonia, and the prognosis was very favorable for complete recovery, provided a secondary streptococcal or other pyogenic infection did not occur.

If seen early in the course of the disease such a prognosis could not safely have been made, for it is in these pneumonias that death on the eighth to twelfth day from acute toxemia occurs, but, having survived the first shock, the outlook for recovery was favorable. I have since learned that convalescence was slow but uneventful and complete.

CASE II.—This case was under my own observation from the first, so that I had an excellent opportunity for complete investigation: Female, twenty-eight years old, had been under observation and treatment for pulmonary tuberculosis involving the left apex for two months prior to the onset of the pneumonia. She was feeling ordinarily well and was able to attend to her usual occupations. After two days of slight indisposition and moderate elevation of temperature a sharp rigor and rise in temperature to 105° F. occurred. Pain in the left chest, dyspnea, and prostration marked the onset of an acute lobar pneumonia, involving the whole of the left lung. Consolidation was the most complete I have ever seen. There was absolutely no respiratory sound except a bronchial tubular breathing, which came to the ear with a metallic, almost musical, sound. Cough and expectoration were entirely suspended. Exploratory aspiration failed to show fluid in the pleura or lung. Cyanosis of the lips and nails was marked. Passing over irrelevant details of the case the crisis occurred on the thirteenth day, with distinct improvement in subjective symptoms following immediately, and a return to some extent of the cough, which had been absent since the initial chill. Expectoration was, however, very scant. A glairy mucus by microscopical examination was shown to contain tubercle bacilli in "clumps" resembling pure cultures in arrangement, but there were no other micro-organisms. Within a few days the expectoration became mucopurulent and the tubercle bacilli gradually lost this peculiar arrangement, but were the only organisms found in the expectorated matter.

It is of interest to note that prior to the pneumonia cough was a persistent symptom. Expectoration was much more profuse and more purulent in

character, while the bacilli were more scattered throughout the specimen. With the supervention of the typical pneumonia I was prepared to find a secondary pneumococcal infection, but as soon as expectoration was procurable the diagnosis of acute tubercular lobar pneumonia was made and a prognosis favorable, so far at least as recovery from the pneumonia was concerned, was allowed. It is in such a pneumonia as this, however, whether preceded by evidence of pulmonary tuberculosis or not, that hydrothorax is apt to occur as a complication, and, indeed, a serous effusion into the pleural cavity occurring in the course of a pneumonia may be taken as proof positive of the tubercular nature of the pneumonia just as purulent effusion in the course of pneumonia may be taken as evidence that the pneumonia is due, if not entirely, at least in part, to infection by pyogenic organisms.

In the case in point resolution proceeded slowly but uninterruptedly and the lung cleared up, leaving the patient no worse off than she was before the pneumonia. Subsequently, however, a serous effusion into the pleural cavity occurred and about three pints of fluid was aspirated.

CASE III.—Female, about thirty-eight years old. A protracted, difficult placenta-previa labor was followed, at some interval, during which septic fever occurred (the history obtained was indefinite and vague), by phlebitis, and ten days after labor by the initial symptoms of acute lobar pneumonia, involving the two lower lobes of the right lung. This pneumonia ran an irregular course for three weeks, when abscess and necrotic changes became evident and I saw the patient for the first time. The breath was horribly foul, and expectorated matter contained shreds of broken-down lung tissue, pus, and the usual abscess detritus. The chief microorganism found besides the saprophytes, always present in such conditions, was the streptococcus pyogenes in chains of from ten to thirty elements. There were no pneumococci, influenza, or tubercle bacilli. The case was, therefore, one of acute streptococcal lobar pneumonia, probably originating in a septic thrombus from the involved veins in the extremities. The prognosis, when I saw the patient, was favorable for recovery, without serious complications or sequelæ.

Had a bacteriologic examination been made before the formation of abscess I have no doubt streptococci would have been the prevailing organism found. The prognosis then could have been made with fair degree of certainty as follows: Favorable for eventual recovery, with the probabilities, however, in favor of abscess or empyema as complications, and more or less impairment of the lung as a result.

Of course, necrotic changes occurring in the course of streptococcal pneumonia cannot ordinarily be foreseen. Gangrene, rupture of a pus-sac into

the pericardium or peritoneum, etc., must be regarded as *accidents* which cannot fairly enter into consideration in the prognosis of such cases. In the case in point, however, originating as it did presumably from a thrombus, necrosis was to be expected. This patient lived up to my expectations, and is at present quite well, although convalescence, as might have been expected, was tedious.

CASE IV.—The last case which I shall cite in illustration is also one in which I have enjoyed excellent opportunity for study: Female, between fifty and sixty years of age, appeared with symptoms of a bad "cold," congestive rhinitis, dry cough, pain in the head, back, and legs, some rise of temperature and pulse rate, with slight rigors. For two or three days these symptoms continued, the fever increasing with great prostration, and on the fourth day a more severe chill with temperature of 103.5° F. was followed by the appearance of physical signs of lobar pneumonia involving the lower lobes of both lungs. The cough, which had been dry and persistent heretofore, now became productive of a mucopurulent expectoration which contained Pfeiffer's bacillus of influenza in great abundance; there were no other micro-organisms in sufficient number to be characteristic, and no pneumococci at all.

The diagnosis thus established at the very start was acute influenzal lobar pneumonia, and the prognosis was of necessity guarded, but on the whole favorable. The case pursued an irregular course, uncomplicated by other infections. Consolidation gradually disappeared, there was no crisis, and a tedious and protracted convalescence left the patient in a deplorable nervous condition.

There was no pleuritis during the course of this pneumonia, and of course no tendency to effusion; indeed, I have never seen the pleura affected in uncomplicated influenza, and do not believe such complications ever arise without other infection than that by Pfeiffer's bacillus. This is a broad statement, but one which I think will be borne out by observation. Many cases of pleuropneumonia, so-called pleuritis, dry and with effusion, are reported as "grip" complications, but so far as my experience or information goes these complications arise from multiple infections, made more easy, no doubt, by the depletion of the system by true influenza toxemia, but never directly due to Pfeiffer's bacillus, which we must admit as the sole origin of this peculiar toxemia.

In these illustrations I am aware that some objection is reasonable on the ground that such single infections are not the rule and that the great majority of pneumonias not dependent upon the pneumococcus are multiple infections. Moreover, many pneumococcus pneumonias, especially those running an irregular course, are no doubt cases in which from the start or sometime subsequent to the initial chill there

is infection by more than one organism, but I have purposely chosen these cases of single infection to better illustrate the point, and while any pneumonia may present in a sputum examination several varieties of pathogenic organisms, there will always be found a predominating, and so to speak, primary germ, upon the natural parasitic history and pathogenic properties of which will to a very large extent depend the prognosis of the disease. The cases cited, then, are typical, and will, I think, be found safe guides so far as they go. There are, no doubt, pneumonias which do not fall into any of the classes mentioned. Further study with this idea in view by many observers will be necessary not only to make prognosis in such cases a more definite matter but to place a clinical value upon my own experience and corroborate or falsify my conclusions.

First, then, in conclusion, a pneumococcus pneumonia occurring in a previously healthy individual under sixty-five years of age tends to recovery by crisis, runs a distinct and definite course, is not complicated by pleural effusions, and, in patients who recover, does not permanently affect the integrity of the lung or cause abscess or gangrene. On the other hand, it furnishes by far the greatest pneumonia mortality; and death in the fatal cases is due to acute toxemia.

Second, tubercular pneumonia, occurring either as the initial stage of pulmonary tuberculosis, or in the course of the latter disease, runs an acute and oftentimes alarming course, is more irregular in its development, may terminate by crisis as distinct as that in pneumococcus pneumonia or by gradual subsidence, is not attended by suppuration, either in the lung or pleura, may, however, produce pleuritis, dry or with profuse serous effusion, is seldom, if ever, immediately fatal, and it is doubtful if its remote results upon the general tuberculous process are harmful.

Third, streptococcic pneumonia (including all pneumonias dependent upon infection by pyogenic organisms) forms a very large proportion of all pneumonias, runs a very irregular, prolonged and atypical course; is always the class in which empyema, abscess, or gangrene of the lung is to be feared; is the pneumonia in which septic complications in other organs are to be looked for, and in case of recovery of the patient, often more or less seriously impairs permanently the integrity of the lung or pleura.

Fourth, influenza pneumonia, if uncomplicated, runs a shorter course, in which less-marked disturbance with the body temperature is associated with much greater disturbance of the vasomotor nervous system and with profound prostration, does not tend to terminate by crisis, does not involve the

pleura, nor of itself permanently affect the integrity of the lung, and is seldom of itself fatal. On the other hand, this class of pneumonias more than any other predispose the lung to infection by other pathogenic organisms, among the more frequent of which (probably because of their omnipresence) are the streptococcus and tubercle bacillus, consequently this pneumonia is, more than any other, subject to complications and sequelæ arising from multiple infections.

When the bacteriologic examination relegates a pneumonia to its special class then a prognosis may be safely based upon such general principles as I have endeavored here to outline, guarded, of course, by the condition that it shall remain within its special class and subject to such modification as subsequent examination (which, it is needless to say, should be frequent) shall demand.

It must be remembered that while almost all pneumonia sputum is likely to present many varieties of micro-organisms there will be *one* variety which will prevail in such predominance as to enable the physician to classify the case and with the exercise of sound judgment prognosticate its issue with a fair degree of certainty.

Finally I have purposely avoided citations from the prodigious amount of literature on the subject of prognosis in pneumonia; first, because in such a paper as this, to be read before a society, the chief object to serve is that of exciting a full discussion, an object which is too often defeated by tedious and unnecessary annotations and references, consuming time which could otherwise be given to discussion; and second, because in the literature to which I have access I have failed to find anything which takes up this subject from the point of view which I have endeavored to assume.

MEASURING THE INTENSITY OF THE HEART TONES.

By ALBERT ABRAMS, M.D.,
OF SAN FRANCISCO.

IT has no doubt been a source of regret to many physicians who are habitually engaged in the examination of the chest that we are in possession of no accurate means of registering the heart tones to facilitate accuracy in determining the progress of our patients with heart lesions, or the action of cardiac tonics. There are different factors which normally determine the loudness of the heart tones. One factor is the varying conductivity of the different structures in the chest wall and between the thoracic wall and the heart. The chief factor, however, is the strength of the heart's action. Auscultation of the heart tones in the conventional man-

ner not infrequently affords us no indication of cardiac strength if reliance is to be placed on the intensity of the tones in their selective propagation to different parts of the chest.

I have often been struck by the loudness of the heart tones in emaciated individuals in whom the action of the heart was found to be feeble, as determined by the sphygmomanometer and sphygmograph. In convalescents from typhoid fever the foregoing fact has been especially emphasized in not a few instances. In anemics we often hear very loud tones, even though the blood pressure is low, and again in dilatation of the stomach when that organ approximates the cardiac area, the tones by mere resonance are loud, even though the strength of the heart is reduced. In many emaciated persons it often happens that the heart tones are conveyed to the interscapular region, to the epigastrium, and even the head without any corresponding increase in the force of the heart. In such instances the thorax is practically a resonator. If then, in certain instances, auscultation is no trustworthy index to the force of the heart, have we not in the sphygmomanometer and sphygmograph clinical instruments of sufficient reliability to gage the blood pressure? Unfortunately, in the application of these instruments we must contend with the objectional personal equation and content ourselves with the determination of the blood pressure in the systemic circulation only. When the phonograph was first introduced I thought I saw in that instrument the consummation of my hopes, but after considerable experimentation it proved useless. In my "Manual of Diagnosis"¹ the results are expressed as follows: "In my investigations, which were varied in every manner possible, the recording of heart sounds was practically impossible. The fault rests with the phonograph. There is no question about the sensitiveness of the diaphragm for recording even the feeblest sounds, but the difficulty lies in reproduction. Even loud sounds emanating from the chest are with difficulty detected by an ear accustomed to the phonograph. When the reproducing needle is adjusted to the revolving wax cylinder a hissing sound is heard, the result of friction between the needle and the wax. It is this sound which interferes with proper reproduction. If this objection were obviated the phonograph would prove an ideal instrument in physical diagnosis."

The following method for measuring the heart tones is suggested for its simplicity. It is only relatively accurate. It is based on the simple physical principle that the intensity of sound varies inversely as the square of the distance from the sounding body,

¹"Manual of Clinical Diagnosis," third edition, 1894.

hence the distance to which a heart sound may be heard depends upon its intensity, ignoring of course those adventitious causes of propitious conductivity. Between the area auscultated and the stethoscope a medium is interposed. Experiment has taught me that one of the best media is partially vulcanized rubber in the form of a rod, and just sufficiently soft as not to interfere with convenient manipulation. Such rods may be purchased in any store where rubber goods are sold. The circumference of the rods must equal the caliber of the pectoral end of the stethoscope in which they are to be inserted. The degree of insertion must be regulated by a notch cut into the rubber. The object of this regulation is to insure uniformity of results in the examination of individual patients. The rods may be of different sizes, varying in length from 6 to 26 centimeters, or even of greater length. Before auscultating the heart tones by this method, we must first mark on the chest the different points in the precordial region where the heart tones are heard with the maximum degree of intensity. Over each ostium we auscultate with the rod inserted into the end of the stethoscope, beginning with a rod of medium length and gradually increasing the length of the rod until one is attained through which the heart tones are no longer conducted. The tubes are numbered, and a record may be made in our case book after the following formula:

| | | | | | | |
|-------------------|---|---|---|---|---|----|
| Mitral, I. tone | . | . | . | . | . | -6 |
| " II. tone | . | . | . | . | . | -5 |
| Aortic I. tone | . | . | . | . | . | -4 |
| " II. tone | . | . | . | . | . | -5 |
| Tricuspid I. tone | . | . | . | . | . | -6 |
| " II. tone | . | . | . | . | . | -4 |
| Pulmonary I. tone | . | . | . | . | . | -4 |
| " II. tone | . | . | . | . | . | -5 |

According to the foregoing formula we conclude the following: That with a rod (No. 6) which is 26 centimeters in length we may still be able to hear the following tones: Mitral systolic and tricuspid systolic tones. A similar interpretation may be deduced from the other numbers. These figures possess no value for general application as the degree of transmission is dependent on the character of the stethoscope as well as the length of the rod employed. Each observer must cut his own rods of different lengths. With some kinds of stethoscopes the first mitral and tricuspid tones are still heard with rods fully 30 centimeters in length, whereas with other kinds a rod of half the length will no longer transmit the same tones. In some instances another method may be adopted. It is less reliable than the former method, especially in thin persons, owing to the increased conductivity of the thoracic tissues. As before, one marks on the chest wall the

different situations where the heart tones, corresponding to each ostium, are heard loudest, and then proceeds in different directions until the sounds are no longer audible. The distance to which the sounds are propagated is marked and measured. The directions in which the sounds are auscultated have been determined empirically as follows:

Mitral Tones.—Auscultate along a line on a level with the apex-beat to the left axillary region.

Tricuspid Tones.—Auscultate along a line extending from the point of auscultation to the right axillary region.

Aortic Tones.—Along a line on a level with the point of auscultation to the right axillary region.

Pulmonic Tones.—From the point of auscultation to the left axillary region. The tricuspid and mitral tones are best conducted downward by the liver, but as a differentiation of the mitral and tricuspid tones over the hepatic region is impossible this direction cannot be employed. I will mention, parenthetically, that the liver is an excellent conductor of the heart tones, and when they are no longer audible by auscultation we can safely conclude that the lower border of the liver has been reached.

The following conclusions may be formulated:

1. The loudness of the heart tones may be measured by testing the distance to which they are transmitted from their clinical point of auscultation.

2. This may be determined by two methods. The first method consists of measuring the distance to which the heart tones are propagated along definite routes on the chest. The second method consists of introducing between the stethoscope and the chest wall a soft rubber rod of varying length, the tones gradually becoming less distinct as successive rods of increasing length are employed.

3. Of the two methods the latter is by far the more accurate, although this by no means represents an ideal attainment.

4. The employment of either method does away with memory in observing the progress of the strength of the heart in individual cases, and enables us to distinguish more easily any accentuation of the tones.

5. The order in which the tones can no longer be heard is as follows, beginning with the weakest tones: First aortic, first pulmonary, second tricuspid, second mitral, second aortic, second pulmonary, first tricuspid, and first mitral tone.

6. Until a universal stethoscope is employed we cannot hope to make the method of measuring the heart tones of general application, but must content ourselves with the application of the method to individual cases.

7. The first point beyond the hepatic region where the cardiac tones are no longer audible marks the lower border of the liver.

CLINICAL MEMORANDUM.

TETANUS TREATED BY ANTITETANUS SERUM; REPORT OF A CASE.¹

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THE frightful mortality attending tetanus when left to run its natural course, and the almost complete failure of the ordinary therapeutic measures to favorably influence the course of the disease, leads us to look with favor upon any new remedy which promises benefit. The demonstrated infectious nature of tetanus, and the accepted therapeutic efficacy of the antitoxic treatment of diphtheria, and in minor degree, the streptococcus infections, together with the successful immunization of animals against tetanus cultures by injections of antitetanus serum, give a rational basis for the trial of this product in cases of developed tetanus. The considerable number of recorded cases exhibits a diminished mortality; and as in many of the fatal cases the serum was used only after the disease had already continued several days we may hope for a greater improvement when it is used early. Such a favorable case I am able to report:

Mrs. J., married, mother of two children, called on Dr. A. E. Grant to attend her on January 27, 1899. She gave a history of a long series of miscarriages and resulting uterine disorders, and stated that for several days she had been flowing excessively, and something had passed from her which was destroyed without examination. She had missed one period, and she supposed her menstruation was so profuse for this reason. She strenuously denied having in any way induced an abortion. On January 24th, three days before, she had experienced chilly sensations, and thought she had caught cold.

As the hemorrhage was severe, and Dr. Grant had no gauze or cotton with him he tamponed the vagina with a clean cloth furnished by the patient, which was soaked in a solution of mercuric bichlorid. Next morning she complained of stiffness of the neck and jaws, not being able to separate her jaws more than half an inch. Alarmed by these symptoms, Dr. Grant proposed a consultation. We saw her soon after noon, when in addition to the difficulty in opening her jaws and stiffness of her neck, she complained of soreness in the thoracic muscles. The facial muscles were not noticeably affected, though there was heightened reflex irritability. Her temperature was 99.5° F., and pulse 95.

We agreed that a thorough curettage of the uterus and irrigation of its cavity was indicated, and this was done, the uterus being irrigated with a solution of bichlorid 1 to 4000, and the uterus and vagina packed with

iodoform gauze. She was then returned to bed and ordered full doses of bromid and chloral (though nausea prevented much being administered), and 4 c.c. of Parke, Davis & Co.'s antitetanus serum was injected under the skin of the abdomen. We saw the patient again together at noon on January 29th, and found the stiffness of the neck and jaws nearly gone. She was given an additional injection of 6 c.c. of serum. The nausea still prevented the administration of much medicine by the mouth. The packing of the uterus and vagina was removed and an antiseptic vaginal douche given. On the following day the stiffness of the muscles had entirely disappeared and the patient made an uninterrupted recovery.

This termination of such a grave disease is as unusual as it is gratifying. Indeed, it is so very unusual that it compels a close scrutiny of the diagnosis, for of all the forms of tetanus that following an abortion is perhaps the most hopeless. Gowers says that recovery is practically unknown. There are only two other conditions which could have been mistaken for tetanus in this case—hysteria and rheumatism. The latter frequently causes a stiffness and soreness of the muscles of the neck not unlike commencing tetanus, but rarely if ever affects the jaw. The patient was not subject to rheumatism, and had not caught cold, while her abortion, possibly self-induced by septic instruments, had certainly opened a channel for infection. Hysteria may more or less closely simulate tetanus. In regard to the differential diagnosis Gowers says: "In hysteria, tetanoid spasm is rare except as part of a convulsive attack, but trismus causing persistent closure of the jaws occurs in hysteria. It may succeed a convulsion and last till another, or may come on without obvious cause, continue a few hours or days and then suddenly vanish. It is prone to recur, and this character, the suddenness of onset, its complete degree, the absence of rigidity in the neck, and the presence of other symptoms of hysteria rarely leave any doubt as to its nature." There were no other symptoms of hysteria, nor was there any history of previous hysterical attacks, so that this fact, with the marked rigidity of the neck, enables us to exclude this condition.

White and Peterson say of hysterical trismus: "It usually appears suddenly after a hysterical convolution and suddenly disappears and recurs, and lacks the nuchal rigidity and mental clearness of tetanus." The prompt response of the disease to the injection of the serum, which was used as soon as the diagnosis was made, favors the view that one reason for the slight benefit of serum treatment of tetanus hitherto has been its too late use. White and Peterson enjoin the early use of the serum, in addition to other therapeutic measures, and express the hope that it may be improved so as to be more efficacious.

MEDICAL PROGRESS.

An Obscure Complication of Varicocele.—SMYTH (*Montreal Med. Jour.*, June, 1899) mentions a peculiar complication in a case of varicocele. It was a nodular mass which appeared in the upper part of the scrotum, very

¹ Read before the Colorado State Medical Society, June 20, 1899.

tender and giving the patient intense pain. The testicle was not affected nor was there anything to be felt in the inguinal canal, though the dragging pain extended upward into it. Manipulation under chloroform produced no evident effect, and aspiration with a needle drew only fifteen minims of dark blood. The patient was taken to the hospital in an ambulance. During the journey he felt a sudden relief, and examination a short afterward showed that the tenseness had entirely disappeared. There was in the upper part of the scrotum a soft, tender nodule, apparently the result of the numerous hypodermic pricks, and a tender nodule was felt to the inner side of the internal ring. Operation was performed but nothing was found. The writer considers the differential diagnosis between hernia and a strangulation of one vein by the loop of another, and decides in favor of the latter complication. The patient recovered.

Cleaning the Hands with Horsehair.—FORBES (*Phil. Med. Jour.*, May 20, 1899) takes a flat bunch of curled horsehair instead of a brush and uses it in cleaning his hands, and preparing the operative field. The hairs are stiff enough to scrape away particles of dirt, and will not scratch the most delicate skin, as will the bristles of a brush. This little mop of hair can be sterilized and used for months without losing its character.

Neglect of the Teeth before and after Dentition.—HEAD (*Ther. Gaz.*, May 15, 1899) takes to task those who prescribe acid medicines without cautioning patients to protect their teeth from their influence. He says many a dentist has carefully brought a child up to the age of fifteen years, and then has seen his efforts spoiled by the medicine given in some acute illness. Another precaution wofully neglected is the washing of the mouth every four hours, during a severe illness. Some mild antiseptic solution should be held against the teeth for not less than two minutes each time. Milk of magnesia should be used at bedtime to protect the teeth from acid mucus during the night.

Head is a strong advocate of the lancing of painful teeth in infants. The pressure of one tooth upon a healthy nerve, while its edge is cutting through the gum, may not upset a child. But if the child is irritable, or if several teeth are coming at once, the physician should lance the gums. There need be no dread of making the gums hard by scar tissue, as no tissue in the body is more yielding than that of a scar.

Results of Operation for Stricture of the Urethra.—ISRAEL (*Deut. Zeitschr. f. Chir.*, vol. 51, p. 239), after an examination of the records of all the patients with stricture operated upon during the past eight years in the Moabit Hospital in Berlin, combined as far as possible with an examination of the patients in their present condition, advocates internal urethrotomy rather than external urethrotomy in all cases in which the stricture is in the bulbous portion. He found this to be the commonest seat of stricture, those patients who had strictures in the pendulous portion usually having one in the bulbous portion as well. Four patients died after operation, one

of the deaths being due to miliary tuberculosis, and the others to shock, uremia, and sepsis. These all occurred in patients upon whom external urethrotomy had been performed.

Celluloid Thread for Sutures and Ligatures.—PAGENSTECHER (*Deut. Med. Woch.*, April 6, 1899) takes a good thread, boils it for half an hour in a one-per-cent. solution of soda, washes it in boiling water, and then dries it between sterile compresses. He then soaks it in a solution of celluloid, and passes it again through the same solution. Afterward it is sterilized by steam under pressure, and preserved for use either dry or in an alcoholic solution of bichlorid of mercury. Such threads have a smooth surface, they never tangle, they cannot absorb secretions, and are easily tied. For three years Pagenstecher has used these celluloid threads, to the exclusion of silk, and the use of catgut for ligatures has been greatly reduced. The results have been of the best, and the saving in expense considerable.

Trophic Affections of the Bladder Following Pelvic Operations.—After such operations, especially vaginal hysterectomy, symptoms of cystitis sometimes appear which are attributed to the presence of ligatures in the wall of the bladder. MIRABEAU after cystoscopic examination of a number of such cases states the condition to be one of atrophy of the mucous membrane with areas of edema which he attributes to trophic disturbances resulting from section of nutrient vessels. He found no ligatures. He considers the usual treatment, especially intravesical treatment, to be injurious, and advises stimulation of the local circulation by means of abdominal and vaginal massage, applications of iodin, glycerin, and sitz baths.

THERAPEUTIC NOTES.

A Common Cause of Crying in the New-Born and Its Relief by Water.—SOUTHWORTH (*Canada Lancet*, May, 1899) suggests that the uric-acid infarctions in the kidneys of the new-born may be a source of irritation and a cause for crying if the scanty supply of urine washes them out with difficulty. Thus a baby which had cried almost all of the second day of its life and had passed, during this time, no water, emptied its bladder of a half ounce of turbid brown urine when the cool hand was placed upon it. Boiled water, which should be given to the infant regularly pending the establishment of lactation, will dilute the urine and alleviate such discomfort.

Posture in Occipitoposterior Positions.—GREEN (*Bost. Med. and Surg. Jour.*, May 25, 1899) says that the advantage to be gained in the treatment of occipitoposterior positions by a proper application of the force of gravity is not as well known as it should be. He mentions an instance in which he was able to obtain a change from a posterior to an anterior position after the rupture of the membranes, but before pains had come on, simply by keeping the mother kneeling at the bedside a good part of the day. The following day she was delivered, after

four-hour's labor, of a ten-pound child. Even after the head is in the pelvis the assumption of a lateroprone position on the side toward which the occiput is directed will generally effect rotation in cases in which it could only be brought about by manual interference if the patient remained continuously on her back. During the last week of pregnancy Green often advises a woman to lie at night in the lateroprone position, on the side toward which the occiput is directed, being able thereby to convert a posterior into an anterior position. During the first stage of labor the kneeling posture can be assumed from time to time with profit and comfort to the patient. When rotation has been obtained delivery can be accomplished in any prone position that is preferred.

The Control by Arsenic of the Ill Effects of Thyroid Extract.—MABILLE (*Rev. de Therap.*, May 1, 1899) hopes that he has found in arsenic a means of preventing the ill effects of thyroid extract, which are produced in some patients by this drug. The increased use of the thyroid gland, not only for myxedema, but for obesity, goiter, certain skin diseases, and in general for malnutrition, makes it important that there should be some means of controlling the vertigo, palpitation, dyspnea, anxiety, etc., from which patients who are particularly sensitive suffer. The writer observed that these symptoms disappeared in one of his patients when she was taking Fowler's solution and reappeared when she stopped the arsenic. From 2 to 12 drops of Fowler's solution at a dose were found to be sufficient to prevent any unpleasant symptoms even when taking 12 grains a day. Two other patients took arsenic with thyroid extract with happy results, and the arsenic did not weaken, apparently, the force of the thyroid extract.

Bromid of Ethyl Anesthesia.—LARISCH (*Centralbl. f. Chir.*, April 15, 1899) gives in the form of an inaugural dissertation the experience of Partsch with bromid of ethyl narcosis. After using this anesthetic upon more than 120 patients this surgeon is enthusiastic in its favor, and regards it as an ideal anesthetic. The accidents which followed its use some years ago and which gave it such a bad name were due, he claims, to the administration of too much or too-concentrated vapor, or to the use of impure preparations. He employs only the purest drug (Merck's manufacture), dropping it on an ordinary chloroform mask. A stage of excitement was observed in only eight per cent. of adults and in no children. All patients wakened from unconsciousness very quickly and vomiting occurred in less than two per cent. of the cases. As the heart-beat and respiration are scarcely affected by it, the anesthetic is particularly useful in cardiac cases, and as it is quickly dissipated from the system, but not at all by the kidneys, it is recommended for use upon patients suffering from grave constitutional maladies, such as diabetes, sepsis, etc. The reflexes are never entirely abolished during its administration so that it requires a little practice to know how deeply a patient is under it, but the muscular system is sufficiently relaxed to permit of the reduction of fractures, etc. For use in minor surgery it has no equal.

The Coated Tongue.—WEAVER (*New York Med. Jour.*, May 13, 1899) says that the coating of the furred tongue is full of fungi, and that the bacteria, innocent or infectious, as the case may be, are washed into the stomach with each meal. In disease there are abnormal elements in the secretions and excretions. When abnormal saliva is thrown into the mouth and subjected to the action of the numerous micro-organisms of fermentation, more or less of the solid matters are thrown down and constitute a salivary precipitate, which lodges on the teeth and on the dorsum of the tongue, also on the gums and lips, which, in cases of typhoid fever, is known as sordes. This salivary precipitate can be recognized on the teeth, as it roughens their surface. It is easily removed by the use of the tooth brush. It covers the teeth as a whitish deposit which microscopically shows the different forms of micrococci and bacilli. Upon the tongue it is allowed to remain until it becomes very offensive, unless it is systematically removed by scraping.

When a physician is consulted regarding a foul breath or coated tongue he ought to advise the patient to procure a tongue-scraper and diligently clean the tongue every morning as a part of the morning toilet, using after it a disinfectant mouth wash on the tongue and as a dentifrice. This method will remove the foulest odors from the breath. The same deposit appears on the tongue every morning and must be removed as often.

Every surgeon who has a coated tongue and wishes to be aseptic should look to this possible source of infection, for in coughing, sneezing, or even speaking, it is known that the breath takes with it particles of moisture from the mouth and throat. And every patient who is to have an operation about the mouth or throat should have his tongue cleaned and disinfected. Every fever patient should have his tongue systematically cleaned to remove just that much self-infection. And every person who wishes to be agreeable in the society of others should remove the foul coating on the tongue and with it the offensive odor of the breath.

Prophylaxis of Ophthalmia Neonatorum.—CASTILLO (*Rev. de Therap.*, April 15, 1899) says that many troublesome affections of the eye, which sometimes result in blindness, might be avoided if accoucheurs were more careful in the use of prophylactic measures. The genitals of every pregnant woman ought to be minutely examined. If there is a leucorrhea it should be examined bacteriologically, since the presence of gonococci introduced perhaps by the father, who thinks himself completely cured of an old gonorrhea, makes antiseptic irrigations preceding the confinement especially necessary, though they should be used whenever there is original discharge. When the child is born it should have its eyes wiped immediately with absorbent cotton and then washed with boiled warm water. The use of antiseptics is not advised except in those cases in which the vaginal secretion of the mother contains gonococci. Or to insure greater safety a solution of formal 1 to 1000 may be used daily, as it is not irritating and has both an antiseptic and anesthetic action.

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SATURDAY, JULY 8, 1899.

THE BUBONIC PLAGUE AND OUR WESTERN COAST.

WE quoted some time ago from the *Indian Medical Record* the editorial opinion that Bombay and Calcutta were doomed cities, because of the practical impossibility of ever getting their sanitary conditions into reasonably good shape. It is evident then that the present danger to the civilized world from plague is to continue for some time, and that it is not so much special precautions against incidental exposure, because of a single infected vessel, as a thorough system of quarantine against certain Eastern ports that is needed. The conditions that have developed for the United States in the Far East during the last year emphasize the necessity for a complete and uniform system of quarantine on our Western Coast. Our commercial intercourse with the East is assuming much more importance than before. The annexation of Hawaii gives us another and most vulnerable point in the matter of public health and the importation of disease.

The work of the Marine Hospital Service has so far been effectual, and its service can be depended on to institute effectual quarantine wherever

its powers and facilities are adequate. With our extensive Western coast line, however, under the new conditions that are coming in, the lack of uniformity in quarantine regulations may constitute a serious source of danger. That good quarantine regulations can be effective British colonial history for the last four years proves. Despite the existence of the plague at a number of important points along the lines of colonial commerce the British Government has been able to prevent its spread from the originally infected districts. The successful international quarantine of the Red-Sea district and of the Suez Canal has been especially deserving of applause and has shown how much can be accomplished by modern sanitary science in the face of the most serious difficulties if it is but given the opportunity.

The problems involved in our own quarantine regulations, East and West, against yellow fever and the plague, make evident the necessity of some central authority clothed with plenary power and uniform regulations to take complete charge of both our sea-boards so as to effectually guard the country's health. The American Medical Association at its recent meeting voiced the sentiment of the medical profession of the country in formally counselling the establishment of a National Department of Public Health, to be presided over by a member of the President's Cabinet. As our commercial relations become more extensive this becomes more and more a necessity. Let us hope that its advent will not be delayed until some epidemic makes fatally plain the lesson that is so patent already.

CEREBROSPINAL MENINGITIS AS A PANDEMIC DISEASE.

As we noted editorially at the time, the discussion of cerebrospinal meningitis at the recent meeting of the American Medical Association at Columbus brought out especially the fact that the disease is much commoner here in America than is generally supposed or the text-books seem to teach. But practically the same thing appears to be true all over the world. The crowding together of soldiers in this country under especially unhygienic conditions during the recent war led to an outbreak of the disease as an epidemic in several of the camps. During the late Turco-Grecian War reports of the same

tenor came from both armies. At Omdurman and Khartoum the British soldiers suffered in a similar way, and the epidemic at Omdurman was especially severe and fatal.

It would seem then that the germs of the disease are practically universally present, and that only a favorable opportunity is necessary, as when resistive vitality is low, to give the disease a suitable nidus. And after its passage through a series of susceptible organisms it takes on a virulence that makes it fatally epidemic in character. Its manner of transmission remains as yet a mystery. During the present year we have had reports of the disease as an epidemic in various parts of the country, especially in the middle West and South, and our Philadelphia correspondent quotes from the Pennsylvania State Board of Health reports the statement that there were in the city of Philadelphia during the month of May twenty-two cases of cerebrospinal meningitis with fourteen deaths. The subject of the frequency of the disease and its mode of transmission evidently demand careful investigation.

The affection has of late acquired additional interest from the announcement by Professor Schultze of Bonn (*Muenchener Medicinische Wochenschrift*) that, in a case of typical anterior poliomyelitis in which the subsequent course of the case—the atrophy of muscles, etc., had confirmed the original diagnosis, lumbar puncture disclosed in the cerebrospinal fluid the presence only of the meningococcus intracellularis—the micro-organism that Weichselbaum demonstrated to be always present in fatal cases of cerebrospinal meningitis and which is generally accepted now as the cause of that disease. If it should prove that anterior poliomyelitis in only certain cases is really a mild cerebrospinal meningitis (we have realized for some time that it is some form of acute infectious disease) it will greatly add to the interest of both affections.

The sporadic cases of anterior poliomyelitis that occur with such comparative frequency and over so wide an extent of territory may help to explain how cerebrospinal meningitis is kept in existence and how its transmission occurs so insidiously. It would throw light too on the sudden and apparently unaccountable outbursts of the disease by recognizing that its passage through a series of susceptible organisms has suddenly given it increased virulence.

IS IT PROPER FOR A PHYSICIAN TO EMPLOY A PATENTED DRUG?

In discussing this question, it is necessary to clearly define at the outset what is meant by a "patented" preparation. Patent medicines, so-called, are not as a rule patented but are protected by being accorded a copyright of the name and by the customary use of that name as a trade-mark. Strictly speaking, a patent medicine is one which is made by a patented process, which process has been devised as the result of thought or experimental research, and is quite as much entitled to Governmental protection as is the result of the thought or experimental research which ends in the invention of any machine which is of distinct benefit to the human race. If the general theory of patents is correct, that the inventor of industrial articles is entitled to the sole benefit of his ingenuity for a certain period of years, the chemist is equally entitled to similar reward, as by reason of his skill he has produced a drug which is of distinct value to his fellow men.

The term chemist or druggist here is used advisedly, in distinction from the term physician, because it is generally held that the higher ethics of the medical profession does not permit its members to patent remedial drugs or instruments. We are therefore not in favor of physicians patenting the results of their genius, but the question before us is whether a physician shall use substances which have been patented by persons outside the bounds of the medical profession.

It seems to us that this question should be answered unquestionably in the affirmative, first, because many of these substances are of very decided value and, therefore, it is to the interest of the profession to use them, and secondly, because the physician has no right to deprive his patients of chemical products which he knows are specially indicated simply because he does not approve of the methods by which they are manufactured or protected. By force of circumstances, physicians have within the last few years continually prescribed remedies which are patented, as antipyrin. But the patents on antipyrin have expired, and the profession and laity are now enjoying at the simple cost of manufacture and distribution the benefits of the chemist's skill and labor without depriving him of the just reward that is universally granted to inventive genius.

There is a class of preparations which we believe physicians should carefully avoid using, namely, medicinal substances advertised to the laity. These should be avoided not from the business standpoint that they deprive the profession of practice, for this they do not do, because patients who take these preparations usually do so with such disastrous effects that the profession is pecuniarily benefited in the end by acute cases being transferred into chronic ones, but because the advertisement of these preparations to the laity causes non-medical readers to dose themselves with compounds which in many cases are not only useless but distinctly harmful. The products of those manufacturers who sell a preparation to the medical profession with the right hand and the same preparation to the laity with the left, should also be carefully avoided in writing prescriptions.

ECHOES AND NEWS.

Diplomas Given to Nurses.—The Training School for Nurses of the Manhattan State Hospital on Ward's Island held its second annual graduation exercises on June 14th. There were 110 graduates, of whom 69 were women.

Dr. Austin Flint, President.—Dr. Austin Flint was elected President of the Medical Association of the Greater City of New York, which held its stated monthly meeting at the Fifth Avenue Hotel in New York on June 12th.

Increased Hospital Accommodations in Paris.—The Municipal Council of Paris is considering an expenditure of 72,000,000 francs for the erection of additional hospital accommodations. This amount of money would be sufficient to provide 2810 new beds.

Post-Graduate Medical School.—The eighteenth annual announcement of the New York Post-Graduate Medical School shows that 523 Doctors in Medicine from 57 States, Territories and countries, have attended its courses during the year ending June 1, 1899.

Wedding Gift to Hospitals.—Mr. Arthur P. Heinze of Brooklyn and Miss Ruth Noyes of Butte, Montana, were married in the latter city on June 15th. After the ceremony Mr. Heinze and his brother gave \$5000 each for the establishment of emergency hospitals in Butte.

Spurious Sanatorium Raided.—The house at 9 East Twenty-seventh street has been raided as a disorderly house. For the past year a woman calling herself Dr. Frances McCullough has conducted there what she termed a sanatorium. All the women were dressed as nurses.

Fifty Ambulances Missing.—Fifty hospital ambulances, which were shipped from Chicago to Tampa, Florida,

more than a year ago by the local army officials to be forwarded to Cuba for the use of the United States troops on the island have been lost. Thus far there has been no clue to the missing property.

The Seaside Hospital.—The new building of the Seaside Hospital at New Dorp, Staten Island, was dedicated on June 16th to the work for which it was erected by St. John's Guild. The new building, which is an addition to the old one, is a four-story brick fireproof structure, and is fitted with the best modern sanitary appliances. Last year 2057 patients were treated at New Dorp.

Expectoration in Hoboken.—Hoboken is setting a good example. An anti-spitting ordinance is being enforced in that city. Policemen are ordered to warn those who spit and to arrest upon a repetition of the act. There is a fine of \$10 for the first offense and of \$25 for a second offense. Spitting is prohibited in all public places except into cuspidors, which are furnished by the city.

The Destitute Blind Relieved.—\$35,000 in gold was distributed among 700 blind men and women at the office of the Department of Charities of New York City on June 13th. By a provision of the charter \$75,000 is appropriated for yearly distribution to the destitute blind of the city. The remaining \$30,000 will be distributed among the blind poor of Greater New York outside the Borough of Manhattan.

Typhoid along the Ohio.—It was reported from Wheeling, West Virginia, on June 13th, that typhoid fever is epidemic in many of the towns along the Ohio River from Pittsburgh to Cincinnati. Its prevalence is attributed to the deleterious conditions produced by the big flood of last spring. It is noteworthy that towns having water-supplies far removed from the river have fared no better than communities which depend solely upon the muddy and filthy water of the Ohio.

A New Cancer Hospital.—On June 19th there was established in Perry street near Greenwich avenue in New York City a branch of the French Catholic Charity known as the "Women of Calvary" for the gratuitous treatment of indigent female cancer patients. The first House of Calvary was founded in Lyons in 1842, and in 1874 there was another established in Paris; another in Saint Etienne soon followed, and in 1881 a fourth in Marseilles. In 1886 a house was opened in Brussels, Belgium, and in 1892 another was founded in Rouen.

The Working of England's Inebriate Act.—An attempt has been made recently to get a woman of North London committed to a drink-cure establishment, under the provisions of the Inebriate Act, which went into effect at the beginning of this year. It was shown that the woman had been convicted of drunkenness five times this year, but the magistrate refused to grant the request on the grounds that the act referred to respectable women who had fallen victims to the craving for drink, while the prisoner did not seem to him to be of that class. The case will be appealed.

No Bubonic Plague at San Francisco.—Dr. Wyman, surgeon general of the Marine Hospital Service, denies the existence of bubonic plague on the ship "Nippur Maru," in the harbor of San Francisco, as reported in the daily press. The two Japanese who jumped overboard from the ship were stowaways who connived with members of the ship's crew to escape, and were drowned in trying to evade the customs patrol which had been established around the vessel. They were strong men, and free from disease. The members of the crew and the passengers are all well.

The Passing of Homeopathy.—Under the above title the *Cleveland Journal of Medicine* records the fact that no less than fifteen homeopathic practitioners of that city, after having spent the winter in study at the Cleveland College of Physicians and Surgeons (regular) have received the degree of M.D. An equal number had previously done so, so that in Cleveland at least there seems some reason to justify the title to the item above given. The editor commends to the consideration of their professional brethren these men who have had the honesty to give up false claims at the cost of no little personal trouble and expense.

Yellow Fever.—The Marine Hospital Service reports that from May 6th to 19th there were, at Rio de Janeiro, thirty-four cases and seventeenth deaths; at Havana, June 8th to 15th, one death; at Matanzas, June 30th, one case. Ten cases were reported among the troops of the garrison at Santiago on July 1st, five cases July 2d, and five cases July 4th. There have been thus far seventy-nine cases of the disease there and fifteen deaths. The quarantine against the troops is very strict. No soldiers are allowed in the city except a small guard about the arsenal. There are no cases among the civilians.

Tests upon Tuberculous Cows.—Experiments upon tuberculous cows which have been conducted at the Ohio Experiment Station throws some doubt on the correctness of the theory that tuberculosis is communicated by the use of the milk of consumptive cows. Two years ago eleven cows were condemned by the tuberculin test. They were segregated, but in no other respect was any change made in their care. Their milk was fed to calves one of which, after having been thus nourished for seven months, showed no reaction with tuberculin, and no tubercles were found post-mortem. The eleven cows were slaughtered recently, and the government inspector condemned the carcasses of only two of them as being unfit for food.

The Case against Dr. Cleaveland.—At the preliminary hearing on the third charge (two previous indictments having been dismissed for want of evidence) against Dr. Trumbull W. Cleaveland, which was held before Magistrate Wentworth on June 14th, Bartow S. Weeks, Esq., counsel for Dr. Cleaveland, read a long itemized bill for the Carhart baby's funeral expenses, which he said had been sent to Dr. Cleaveland for payment. The bill footed up to \$727.60. Among a great many items were the following: Mourning for Mrs. Carhart, \$35, mourning

for Mr. Carhart, \$15, mourning cards and stationery, \$3, stone \$166, care of grave, \$1, photographs of baby after death, \$20, vocal music at funeral, \$20, organist, \$20, sexton, \$10, a stateroom on Fall River boat, \$2, etc., etc. This looks extremely like a case of malicious prosecution. It is not surprising that the case, as announced in our last week's issue, was promptly dismissed.

The Pestilential "Christian Science."—The lay press daily reports cases of death and misfortune which are due to the presence among us of this pernicious cult. The evil is becoming so great that in order to correct it some other means will have to be employed than mere ridicule which usually suffices to kill movements akin to this, such as have originated either in abnormal mental processes, or in the deliberate purpose of their originators to humbug humanity. At Elgin, there died in the Illinois Northern Hospital for the Insane, on June 18th, Ellen L. Gilson. In this institution were also Gertrude, the daughter of the deceased, and Elmer E. Day, the brother of the deceased. All lost their reason through the study o' Christian Science. At Minneapolis, Minn., on June 20th William E. Bradford died without medical attendance. He had been ill since June 1st. Christian Scientists had "treated" him. Miss Eva Banfield, a Christian Scientist, was sent to the Buffalo State Hospital on June 22th, having become insane. Joseph Caig died in Philadelphia on June 22d of "heart disease," so the autopsy showed. He had had no physician. A Christian Scientist was his "healer." At Falls City, Nebraska, the three-year-old child of George Sperry became ill. The mother, a believer in "divine healing," would not permit a doctor to be called. The child having rapidly became worse the father pleaded with a physician to treat it. This was done and the child grew better, and was on the road to recovery. One night the physician's son remained with the child and it was only by force that he administered to it, the "healers" swarming about him all the while, and saying everything he did was instigated by the devil. When the doctor left the next morning they threw the medicine away, locked the father in the kitchen, and prayed over the child until it died. This was on June 22d. Mrs. Porcella of Cranford, New Jersey, died on June 22d. A year ago she became a Christian Scientist. Shortly after this she contracted a severe cold, which she paid no attention to. Then phthisis appeared. But she would not be treated by medical men until three weeks ago. Thus does the ghastly procession pass before us. It is pleasing to be able to record that some steps are being taken to restrain this evil. At a meeting of the Medico-Legal Society of New York on June 21st the President was authorized to appoint a committee, whose duty it shall be to investigate the methods of the "Christian Science healers." In Philadelphia also something is being done by the County Medical Society whose President, Dr. Solis Cohen, considers that "important issues in public health are involved which give the State the right to interfere in order to protect children and other helpless persons from their parents or guardians. Moreover, these issues give the State the right to interfere to protect the community from contagious diseases which

may spread if not properly treated and do much harm to the community."

Distinguished Medical Visitors to America.—In the decennial celebration of Clarke University, Worcester, Mass., which commenced July 5th, two distinguished foreign medical men have taken part—Professor Santiago Ramon y Cajal of the University of Madrid, Spain, and Professor Angelo Masso of the University of Turin, Italy. Professor Ramon y Cajal will be recognized by American medical men generally as the well-known investigator into minute nervous anatomy, whose work during the last ten years has attracted world-wide attention. He is practically the only Spanish member of the medical profession whose work is known outside of the confines of Spain, and almost the only Spanish scientist who in our generation has made in any line distinct contributions to scientific knowledge. His work met with little encouragement in university circles in Spain itself until the interest of the outside world in it compelled its recognition. Professor Ramon y Cajal has gathered around him at Madrid a corps of workers in minute anatomy, and especially in the normal and pathological histology of the nervous system, all of whose contributions are now eagerly awaited, and the results noted by all other workers in these lines. Professor Angelo Masso is best known perhaps for his work in recent years upon the ductless glands, and especially upon the interesting questions involved in the parathyroid glands and their relation to the thyroid and to the general nutrition and metabolic processes of the organism. A discussion carried on through the medical journals for some time with Professor Gley of the Sorbonne on this subject brought him into a good deal of prominence a few years ago. It is to be hoped that both these distinguished medical visitors will meet with a suitable welcome from the profession wherever they visit in this country.

CORRESPONDENCE.

THE AMERICAN MEDICAL STUDENT ABROAD. MEDICAL STUDY AT THE SMALLER GERMAN UNIVERSITIES.

FOR most medical men medical study in Germany means courses taken at Berlin or Vienna, or perhaps, Munich or Leipzig. Too often it is forgotten that the younger and more pushing men, the men with a present and a future in medicine, though perhaps not yet with a past, are as a rule doing their work in the small German university towns. Of course the younger men have not as yet won that reputation across the sea that the attainments of older men have brought to them, but instead of resting on their oars in a very proper elderly conservatism they are pushing their way in the very forefront of medical advance; they are doing the work that will later put them at the head of clinics and departments in Vienna and Berlin and Leipzig and Munich, while just now they are in that precious stage of youthful enthusiasm for progress and discovery that makes personal contact with them an

incentive to original work such as can be imparted in no other way.

It is to be remembered that advancement very seldom comes to the German assistant professor at the university where he spends his early years of teaching. He must have had some years of experience in charge of a clinic or institute at one of the smaller universities; he must have shown his prowess of initiative and his capacity for independent work before he will be called to a chair in one of the large universities. The present professors at Berlin and Vienna, for instance, have, with very few exceptions, passed through a preparatory novitiate at more than one smaller university before their call to the large cities. Professor von Leyden was at Königsburg and Strasburg, Professor Gerhardt at Jena and Wurzburg, Professor König at Göttingen, Professor Nothnagel of Vienna after being assistant at Berlin was at Jena we believe, Professor Gussenbauer was at Prague. It is well understood by the assistants at the large clinics that direct promotion at a great university is practically out of the question. "Unless" as one of them once said to me, "I should turn the medical world half upside down." The young men accept the full or ordinary professorships at the smaller universities, though as a rule the salary is not a very tempting one, because they fully appreciate that this is the next and essential step in their career as university professors.

It is the work being done by these younger men particularly that is keeping German medicine in the van of medical progress. Contact with them is a precious thing and should constitute a part of the prospect to every young American going abroad. Of course the work in the smaller university towns has its drawbacks because of the small amount of clinical and pathological material that there is to work with. It may readily be imagined that Jena with about 10,000 people, Marburg with 15,000, or Greifswald with something less than 25,000 cannot furnish the variety of cases, the multiform complications and sequelæ, and the anomalous pathological conditions that would be desirable for purposes of university and especially post-graduate study. It must be remembered, however, that practically all of the poorer classes, who represent a much larger proportion of the population than here in America, are treated at the hospitals and in the university dispensaries; that the reputation of professors brings material from the neighboring country side, and that certain arrangements are made to supply hiatuses in pathological material by the university authorities from larger centers.

The principal advantage to be derived from attendance at the smaller universities is that personal attention is secured in whatever the student undertakes, and if the worker or investigator be but serious in his labors nothing seems too much to do for him. The contrast in this regard from the spirit of indifference or perfunctory fulfillment of duty that has been paid for which so often characterizes the attitude of clinical assistants and others engaged in work with Americans at the larger universities is most notable. For the theoretic branches especially, for pathological anatomy, for physiology, for bacteriology,

and the like the smaller universities are in a position to give much more thorough and satisfactory courses to those who really seek a thorough knowledge of certain subjects in medicine and not a hasty superficial glance at everything medical knowable and a few other things besides.

Additional advantages at the smaller universities are that the absence of large numbers of Americans with whom in the larger cities the student is continually thrown in contact enables him to pick up German much sooner and better. Constant association with Germans forces the knowledge of the language upon him in less than half the time that the student in the larger cities requires unless he is eternally vigilant in grasping opportunities. Another advantage and one not to be despised is the knowledge the student gets of real German university life and of the German university town as such. Large cities are unmaking the old university life all over the world and it is becoming harder and harder to understand certain historical details that German university towns still preserve. To one who is interested in German national life (and what doctor is not interested in knowing the people as they are) life in a small town will give certain true impressions of the genuine national life of the people that cannot be obtained in a large city. All the large cities of the world are being recast in the modern mold of practical municipal advancement which is rapidly doing away with all that is characteristic in them, and the people are being modified by their environment. The true spirit of advance has not yet touched the smaller towns or only enough in passing to make them sanitary dwelling places without interfering too much with their interesting natural conditions.

After this rather long prelude I may add a word or two of some of the smaller German universities at which I have had a brief personal experience, sufficiently recent for my impressions of them to be of practical service to others perhaps who may contemplate a European medical pilgrimage in the near future.

Bonn is beautifully situated just on the most picturesque part of the lower Rhine, below the Siebengebirge, the famous scenic seven mountains and is *the* fashionable one of the German universities. To Bonn the present Emperor went as a student and many of the sons of the German nobility go there for part of their course at least. The opportunities for work are excellent and the material (Bonn has some 50,000 inhabitants) reasonably plentiful. Schultze in medicine, Schede in surgery, and Pellman in mental and nervous diseases are all well and widely known. They are not young men but they have associated with them some excellent assistants and are themselves not beyond their days of enthusiastic investigation. Bonn has the disadvantage from one point of view of having a good many English and American visitors during the summer semester, but is a delightful place in which to stay.

Griefswald in the distant north not far from the Baltic Sea is a very charming old town, whose university, owing to the rivalry with the University of Rostock in the duchy of Mecklenburg-Schwerin, is kept at a very high standard

by the special efforts of the Prussian Government, which takes this means (and a very good one it is) of demonstrating the advantage of living under Prussian rule. In the faculty are Löffler, Grawitz, who is prominently mentioned as the prospective successor of Virchow at Berlin, Mosler in clinical medicine, and Landois the physiologist, whose text-book is so well known in this country. I do not know of any place where a summer semester of investigation or experimental work in one of the theoretic subjects with occasional excursions into practical medicine could be passed more pleasantly than here on the cool pleasant shores of the Baltic Sea.

Heidelberg is, if possible, more beautifully situated on the upper Rhine than Bonn lower down. Around it cluster some of the most characteristic traditions of German university life, and the German student, with all his oddities, the only ones we are apt to consider at a distance, and his many excellent and admirable qualities which only intimate association with him brings out, may be seen to better advantage here than anywhere else. Erb and Czerny are here, which is enough to say from a medical standpoint, but there are others.

Jena is one of the old German universities not so noted for medical as for other work but where excellent opportunities are given. Stintzing in medicine, known especially for his work in therapeutics, Riedel who has made a name recently in surgery of the biliary tracts, Binswanger in mental and nervous diseases, and Ziehen in physiological and pathological psychology are here.

There is an air about Jena in its picturesque location, in the midst of its traditions, in the pretty old university town as yet unspoiled by any, even the slightest, tincture of progressive modernity that makes a stay there most interesting.

Marburg is another university town that is most beautifully situated. These four: Bonn, Heidelberg, Jena, and Marburg do not suffer by comparison with one another as far as regards picturesque situation. The two first are better known to the tourist because of their situation on the Rhine, but personally I should not care to have to make the choice from their scenic advantages alone. Marburg like Greifswald has been especially well cared for because of its nearness to a rival university, Giessen in the duchy of Hesse. It has a magnificent set of new university buildings and especially an entirely new set of medical clinics. Mannkopf is here in medicine, Küster, whose work especially in renal surgery has brought him into prominence of late, is in charge of the surgical clinic. Frederick Müller is here as an extraordinary professor in medicine, Behring is here and has besides the university laboratory in the town a magnificent private laboratory most beautifully situated on the heights above the town. The whole faculty at Marburg is far above the average. The salaries paid professors are higher than those at other universities because of certain funds that come to the Prussian Government and certain obligations it assumed in the matter of university and public education when it deposed the reigning duke and took up the ruling power in 1866.

The German university at Prague can scarcely be

called one of the smaller German universities despite its scant 300 medical students. There is no dearth of material for clinical and pathological work. Of the infectious diseases generally, even smallpox, of contagious skin diseases or those due to dirt and neglect; of the varied complications of disease due to lack of sanitary arrangements Prague has a most abundant supply. Great improvements in sanitation have been made in recent years, but a large field for clinical work in the branches that depend for their material on defective sanitation still remains. From the well known character of the professors at Prague it seems needless to add that excellent advantage is taken of the material so amply provided. Von Jaksch and Pribraam in medicine, Wölfer in surgery, Pawlik in gynecology, Ganghofner in children's diseases, Chiari in pathology, the two Picks, one in dermatology the other in neurology and mental diseases are all names to conjure with in the medical world. Of course Prague has for years been noted for its excellent teaching in obstetrics and still retains her reputation in this respect. On the whole the opportunities for study at Prague are excellent and are not taken advantage of as much as they would be if the conditions were known better abroad.

I have mentioned somewhat in detail these six German universities because of personal familiarity with them. By reputation one gets to know in Germany certain other universities that present some good opportunities. Breslau, where the rivalry with the Austrian universities has led the Prussian Government to devote a good deal of money and energy to the making of an excellent university in all departments and many of whose professors are among the best known in German medicine. The University of Göttingen of other fame than medical but where Orth, who is also prominently mentioned as Virchow's possible successor, is doing some excellent work in pathology; Strasburg, where Von Recklinghausen's work in pathology is well known, Naunyn is doing some of the best clinical and experimental work in Europe, and Minkowsky's physiological observations are eagerly looked for by the medical world. No effort has been spared by the German Imperial Government to give the new German university that succeeded the French university one of the best teaching faculties in Europe, and a teaching plant second to none. In this, as in everything else that Germany has seriously undertaken of late years, it has succeeded admirably.

I fear that my catalogue of the minor German universities has extended itself until it has lost its value as counsel and become a mere list. Very few German medical students, however, limit their studies to two universities, but spend at least a semester at three or four. The plan has its advantages in the breadth of view it gives as to the comparative value of certain lines of medical advance. It would certainly be of distinct benefit to Americans not to limit themselves to any one school of teaching. Attendance at several universities demands several years abroad, however, and the American student is apt to go with the idea that he can absorb all that he will care to in a year or less. The sooner this notion is abandoned the better.

The Americans and Englishmen whose foreign studies have been of special service to them, of whom the late Professor Kanthack of Cambridge, and our own Professor Welch of Johns Hopkins are notable examples, have all spent considerable time at patient investigation, usually in one definite line and without spending themselves on a number of subjects. It is this readiness to devote sufficient time and care to medical investigation that constitutes, as I called attention to once before in the MEDICAL NEWS, the essence of the good work done by the Japanese medical students in Europe. When the younger American medical students are ready to devote themselves in the same way to patient clinical or experimental work not for one, but for two or more years, they will return after their European experience much better fitted to take up the work of advancing scientific medicine in America than now, when application to too many supposedly practical subjects gives but a superficial knowledge of many things that are not long of benefit to the rising medical man.

JAMES J. WALSH, M.D.
1973 SEVENTH AVENUE, NEW YORK CITY.

BLOODLESS TONSILLOTOMY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—For quite a number of years I have been very interested in the excision of tonsils, and in reading the article by Dr. Dawbarn, in the MEDICAL NEWS of May 20th, thought that his idea a good one. Although I have never had a severe case of hemorrhage from a tonsillotomy I have always expected it, as I find the tonsils in children, as a rule, do not bleed much and are devoid of blood-vessels. I avoid taking out tonsils in adults as much as possible, especially if they are hard, and always examine with my finger to find out whether there is any anomalous condition of the arteries. Dr. Dawbarn's article, entitled "Bloodless Tonsillotomy," in the MEDICAL NEWS of June 10th, is a thing not entirely to be desired, as I think the local blood-letting that comes from tonsillotomy is a part of the good which is derived from the operation, and which you also get from the operation on the tonsil of Luschka, or on adenoids, and when I have very little bleeding I frequently use a little friction to bring it about. The mouth-breather, or the child with chronic hypertrophied tonsils, is the patient that gives the throat and nose specialist the most trouble to-day, and when the physician can relieve the patient he receives the thanks of the parents.

Yours truly,
CARR LANE, M.D.

ST. LOUIS, June 24, 1899.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

ILLINOIS SOCIETY FOR THE PREVENTION OF CONSUMPTION—STATE BOARD OF HEALTH MATTERS—ANNUAL MEETING OF THE CHICAGO MEDICAL SOCIETY.

CHICAGO, July 3, 1899.

A MEETING of prominent physicians and laymen was held June 20, 1899, in the Hall of the Chicago Medical

Society, and the organization of the Illinois Society for the Prevention of Consumption was effected. Several speeches were made in which measures both for the prevention and extermination of the disease were discussed. Dr. L. G. Marillat, speaking on behalf of the Chicago Veterinary Society, presented a summary of the points which he said could be easily demonstrated: (1) That the tuberculin-test for bovine tuberculosis is sufficiently reliable to be practical. (2) That the sale of milk from tuberculous cattle should be absolutely prohibited, and that the apparent absence of tuberculous processes in the mammae of a cow is no assurance of non-infectious milk. (3) That tuberculosis is raging among the dairies of Chicago and vicinity, and the people of Chicago are actually being infected with tuberculosis through its milk-supply. (4) That proper veterinary inspection of dairies will eventually result in purifying the supply, and such inspection should be conducted under the direction of the Commissioner of Health of Chicago, who in turn should collaborate with the State officers in their efforts to exterminate the disease from domestic animals. Dr. A. S. Alexander said that in order to insure absolutely wholesome, pure, innocuous milk we must have, first, a perfectly healthy, clean cow. Second, she must be fed on perfect, sound, sweet, nutritious food. Third, she must drink uncontaminated water. Fourth, she must be surrounded by a perfect sanitary environment and housed in a fine stable. Fifth, the milk so produced must be protected against secondary infection. Tuberculosis may be eradicated from any stable by the proper use of tuberculin. Dr. William A. Evans discussed the mortality of tuberculosis and gave the annual mortality statistics from this disease in the large cities of the world. The following officers were elected: Honorary president, Dr. N. S. Davis, Sr.; president, Mr. John MacLaren; first vice-president, Dr. William A. Evans; second vice-president, Dr. Edwin Klebs; third vice-president, Dr. A. H. Baker; secretary, Dr. John A. Robison; treasurer, Mr. Elbridge G. Keith.

The efforts of the Society with regard to legislative action will be: To urge the State Legislature to appropriate a fund adequate to the needs of the State Board of Live Stock Commissioners, this sum to be probably \$50,000 for the first year, \$30,000 the second, and \$20,000 the third. To insist that the Legislature increase the executive force of the Live Stock Commission sufficiently to enable the Commission properly to fulfil its duties. To urge that the Commission be empowered to administer the tuberculin-test to all cattle in the State without the consent, or if necessary, against the wishes of owners of cattle. To make it necessary that the Commission begin a systematic examination of all cattle in the State, and all cattle not proving under the tuberculin-test to be free from tuberculosis shall be condemned, and the owners compensated by the State at the scale of prices fixed by the Live Stock Commissioners. To devise and recommend an efficacious plan for the prevention of the sale of tuberculous milk in Chicago; this plan modeled for the most part after the method adopted by Buffalo; to recommend that the Common Council enact an ordinance creating a force of experts in veterinary medicine, whose

duty it shall be regularly to inspect the dairies supplying milk to the Chicago market, whether or not such dairies be within the city limits; and the plan further to provide that no can of milk shall enter the milk depots of Chicago without a number corresponding with a number on the sanitary report of the dairy from which the milk was shipped.

The State Board of Health, at its meeting held in this city recently, adopted resolutions calling on the Legislature to vest the Board of Live Stock Commissioners with authority to conduct sweeping investigations looking to the eradication of tuberculosis in cattle and to grant a special appropriation for the work. The Board voted that Illinois municipalities ought to pass ordinances prohibiting the sale of milk from untested herds. The Board revoked the practising licenses of H. E. Colby and William F. Hughes.

In the slaughtering of condemned cattle by the Live Stock Commissioners on June 18th out of 91 cattle slaughtered, 89 were found to be infected with tuberculosis, and 57 were so badly affected that the carcasses were condemned.

At the annual meeting of the Chicago Medical Society, held June 21, 1899, the president, Dr. Arthur D. Bevan, delivered an address on "The Science of Medicine and Its Relations to the Public." He said there is a science of medicine just as truly as there is a science of chemistry or of astronomy or anatomy. Just as chemistry is dependent on physics and mathematics, so medicine is dependent on chemistry, physiology, pathology, and anatomy. Medicine does not hesitate to borrow from any branch of knowledge that may aid in its development, and it follows that as these aiding sciences develop, medicine will advance. Medicine must let the world know that it begins the twentieth century as a pure science, and that it has left behind it the mystery, the superstition, the dogmas of the past. The teaching of medicine must be in the hands of scientists. Students of medicine must be taught its truths and limitations. The public, with its ever-growing ability to grasp knowledge, must be taught its truths and frankly told of its limitations. He then discussed the great duty which the science of medicine owes to the public under four heads: First, by developing and teaching the science and practice of medicine along purely scientific lines. Second, by demanding a high standard of knowledge and efficiency of men desiring to practise medicine. Third, by educating the public in the great truths of medical science. Fourth, by obtaining national, State, and municipal recognition of the great medical truths which can be incorporated into laws for the good of the community. Of twenty medical colleges in Chicago, he said possibly there were three sufficiently well conducted to warrant their recognition as scientific schools; the others have no right to such a claim. They represent either some paltry or a pathologic desire of a group of men for the title of professor and the opportunity to advance and advertise themselves. This results in the turning out of poorly equipped medical men and the lowering of physicians generally in the eyes of the public. Modern medicine demands a scientific train-

ing. The modern medical school must drill its students in the sciences of anatomy, physiology, pathology, chemistry, and pharmacology in well equipped laboratories. These laboratories must be not only teaching mediums, but workshops for the discovery of new truths. After this preliminary work the student will study medicine, surgery, obstetrics, and the specialties in well-equipped hospitals and dispensaries. He would like to see a national law to control medical practice, although it seems an insurmountable task to obtain it.

When we see the good accomplished by vaccination, by quarantine against yellow fever and cholera, by anti-toxin in diphtheria, the lessening of typhoid by pure water-supply, the elimination of trichinosis by inspection of hog products, as done in Germany, and now the great awakening in regard to the prevention of tuberculosis, one must be impressed with the tremendous possibilities of preventive medicine. The realization of these possibilities depends upon the education of the people as to the dangers of disease, the cause of disease, and the practical method of prevention.

The following officers were elected: President, Dr. Junius C. Hoag; vice-presidents, Drs. Henry B. Favill and Hugh T. Patrick; secretary, Dr. Arthur R. Edwards; treasurer, Dr. S. C. Plummer.

OUR PHILADELPHIA LETTER

[From Our Special Correspondent.]

ANOTHER LEGAL SET-BACK FOR THE ANTIVACCINATIONISTS—THE "KISSING-BUG" EPIDEMIC—THE SALE OF "EMBALMED" MILK—DIPHTHERIA AND THE FACTORY INSPECTORS—TUBERCULOSIS IN CATTLE—MEDICAL SOCIETY OF NEW JERSEY—SMALLPOX IN PENNSYLVANIA.

PHILADELPHIA, July 3, 1899.

STILL again has the antivaccinationist resorted to the courts to contest the constitutionality of the compulsory vaccination law, as applied to public-school pupils, and again has the opinion of the law defeated his intentions. The petition of a Mr. Charles J. Field of this city, aimed against the vaccination law as it now exists here, has been defeated, and the outcome gives satisfaction to every citizen of intelligence, lay and professional. The complainant filed a petition requiring reason to be shown why his daughter should not be admitted to a public school by its principal, who had refused to admit her because she failed to produce the proper certificate from a physician showing that she had either been successfully vaccinated or that she had at one time suffered from smallpox. In answer to the petition the City Solicitor filed an answer upholding the principal of the school, stating that the defendant was compelled to comply with the law passed in 1895 relating to this question, and further, that the principal had to comply with a similar rule of the Board of Education. Thus another attempt to overthrow the compulsory vaccination law has been defeated in its incipiency, as has been the fate of all such attempts against this established prophylactic measure. But the incident proves that primitive mental receptivity still prevails in some quarters, and that lovers of right and of enlightenment

must be on their guard to abort these attacks upon common sense, proven safeguards of the community's health.

That annoying insect popularly known as the "kissing-bug," which has been epidemic recently in Washington and Brooklyn, has visited Philadelphia, in the course of its peregrinations northward, its presence here having become very evident by reason of the dozens of persons who have suffered from its bite during the past three or four days. The bites of this insect, which usually occur on the lips of the individual attacked—hence the name, "kissing-bug"—are quickly followed by extensive swelling of the part, which becomes red and inflamed, and exceedingly sensitive. Signs of active cellulitis are often present, and the lips swell to two or three times their normal size, so that articulation and eating may be impossible. The process subsides rapidly after forty-eight to seventy-two-hours' duration. The exact identity of the insect concerned in this epidemic is somewhat in doubt, but it is thought to be one of the varieties of the so called "assassin bugs," probably the opisocetus personatus, which is a common parasite of the ordinary bed-bug and house-fly. It is an insect nearly an inch in length, of dark brownish-red color, and having six legs and long antennæ. During the past week more than a dozen persons have applied for hospital treatment on account of its bites, and according to current reports the list of its victims continues to increase from day to day.

"Embalmed milk," as it has been termed by those of facetious turn of mind is just now giving the inspectors of the Board of Health all sorts of worry, and extensive searches and tests are being carried on, to detect the presence and to suppress the use of this deleterious preparation. "Embalmed milk" is nothing more nor less than milk to which formaldehyd has been added to prevent souring, and it is claimed that its use is fast becoming general, particularly in the poorer sections of the city, among dealers with whom cheapness, and not quality, is the prime object of trade. The very minute proportion of formaldehyd required to prevent fermentation of milk, and the difficulty with which it may be detected by the ordinary methods employed in milk-testing make its detection a rather elaborate chemical analysis, and decrease the chances of its being suppressed. Philadelphia has recently had quite an extensive assortment of other food adulterations, in addition to this form, the authorities having brought to notice a number of other instances relating to the adulteration of coffee, vinegar, and cider. What with fever-germed Schuylkill water and formaldehyded milk and salicylated beer, the poor inhabitant must needs altogether abandon liquid indulgences unless his immunity happens to be absolute.

The discovery this week of diphtheria in a "sweat-shop," by one of the State factory inspectors, is a rather disturbing incident which calls for increased vigilance and thoroughness in the inspection of premises where clothing and other articles of general sale are manufactured. Thanks to a new law, the authorities were able to take prompt and radical measures in the present instance, by seizing and confiscating all the clothing found in the

place. By the present plan of cooperation between the factory inspectors and the health-office of this city, it is believed that the dangers of the spread of infectious diseases from such foci will be at once minimized.

Dr. Leonard Pearson, the State Veterinarian, has stated in his annual report, just rendered to the State Live Stock Sanitary Board, that during the past year one thousand cattle in this State were condemned as tuberculous and killed, their value being appraised at over twenty-five thousand dollars. Dr. Pearson also reports an outbreak of anthrax in Jefferson County, and several cases of rabies in different parts of the State. The excellent work of Dr. Pearson will be carried on this year unhampered by deficient appropriations, as it has been arranged that a sum of \$40,000 shall be set aside for the expenses of the board during the fiscal year.

The 133d annual meeting of the Medical Society of New Jersey was held at Allenhurst, June 27th, 28th and 29th, the president of the society, Dr. Fisher, presiding. More than 150 delegates from the different county societies were present, and the meeting was very successful, both as to the scientific matter discussed and the business transacted. The society elected officers for the ensuing year as follows: President, Dr. L. M. Halsey; vice-presidents, Drs. Wm. Pierson, John D. McGill, and E. L. B. Godfrey; secretary, Dr. E. W. Hedges; corresponding secretary, Dr. Wm. J. Chandler, and treasurer, Dr. Archibald Mercer. The next meeting will be held at Atlantic City in June, 1900.

That smallpox prevails to a wide extent in Pennsylvania is shown by the last report of Dr. Benjamin Lee, secretary of the State Board of Health. This report, dated June 27th, states that no less than 146 cases of this disease have been reported since June 3d. Of this number forty cases occurred in Philadelphia. The majority occurred in the western counties.

OUR LONDON LETTER.

[From Our Special Correspondent.]

NO DECISION YET IN THE HUNTER CASE—THE ENGLISH CANCER SOCIETY AND ITS VIEWS ON PREVENTION—THE HARLEIN GOLD MEDAL TO LORD LISTER—HAFFKINE'S ADDRESS ON INOCULATION IN THE PLAGUE—LAWSON TAIT—SANITARY CONDITION OF LONDON—THE PROGRESSIVE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

LONDON, June 24, 1899.

THE General Medical Council has not yet reported its decision in the Hunter case, to which I have already referred, though that redoubtable warrior Victor Horsley is pushing the battle to the very gates. Its committee, of which Dr. Glover is chairman, reported in favor of the organization of a Conciliatory Board, which should mediate between the profession and the friendly societies and clubs in the serious clashes which are continually occurring. The council mildly approved of the theory of the report, but immediately thereafter emphatically refused to take any share in the formation of such a body, so "conciliation" seems as far away as ever. The council seems to continue in the same conservative frame of mind

noted last week, as it flatly vetoed a proposition to increase the direct representation of the profession at large at its board by so much as a single member.

There is abundance of sporting enthusiasm in the English profession, and a fine healthy spirit it is. The "medical" dog-show, arranged by the Women's Medical School, proved a great success, attracting entries of nearly 250 dogs owned by members of the profession, and netting a handsome sum for the laboratory fund of the school. Week before last one of the leading golf clubs was the scene of a "medical tournament" which attracted much attention and many entries. And as every one whose early education has not been neglected knows, the champion cricketer of England, the uncrowned king of the athletic world, Dr. W. G. Grace, is one of us, not merely in name, but in fact. He has a large practice to which he devotes himself in the winter, turning it over to a partner for the summer, when the cricket season begins. And so far from injuring his practice, his fame as a batsman is said to be a decided advantage to him professionally, and his patients are immensely proud of his prowess. Oddly enough, by the way, the honors in the golf tournament were won by a "Dr. Jekyll," though whether "Mr. Hyde" appeared in the competition is not stated.

And after consumption, cancer. The English Cancer Society has just held its inaugural meeting, at which the usual melodramatic statistics showing an enormous increase were quoted and all true Britons urged to rally for its prevention. As even the pathologists among us are still completely in the dark as to the cause of cancer, just what form measures of prevention are to take, is distinctly hazy, but the society rises superior to such halting considerations. It demands elementary instruction in the schools in the laws of the prevention of cancer, and a Parliamentary Inquiry! This is the way to talk! Just let the disease understand that you're not going to stand any more nonsense, but are about to proceed to prohibit it by law, and threaten it with Parliamentary Inquiry, and like Davy Crockett's coon, it will "come down" at once. Prevention without knowing the cause is delicious! It reminds one how the "Hunters of the Snark," according to Lewis Carroll, "threatened its life with a railroad share."

At the anniversary dinner of the Royal Institute of Public Health the Harlein gold medal was presented to Lord Lister, in recognition of his invaluable services not merely to surgery, but to State medicine and sanitary science. We regret to learn that Lord Lister is at present somewhat indisposed, but it is hoped the attack will prove of but short duration. No honors can be too great or too many for him while he is still with us.

Professor Haffkine's address on "Inoculation in the Plague," before the Royal Society week before last was both interesting in itself and a high tribute to the importance and value of medicine in the eyes of its sister sciences. Agreement was almost unanimous among the experts present after the address that Haffkine's result compelled belief in the value and promise of his method. As many as 80,000 patients were inoculated in one place

(Hubli) and the sick and death rates were enormously lowered among them as compared with the uninoculated. The method of attenuation is by cultivating the plague bacilli in the presence of weak solutions of carbolic acid or oil of mustard, only the toxins of the attenuated bacilli being used in inoculation.

The inoculation has proved remarkably safe and innocuous, although its sensory effects were described by an immunized gentleman present at the session as "like fifteen vaccinations at once," and the natives are beginning to feel confidence in it, a most important tribute from the novelty-hating and cowardly Asiatic.

In this connection it will be of some little personal interest to American surgeons to learn that the antiseptic, flour of mustard, used with such excellent results by many of them in their operation-preparations, on the recommendation of Roswell Park, has been found by Haffkine one of the most efficient germicides against even the virulent plague-bacilli.

Bacteriology has just scored another triumph in the service of man; this time not by directly preventing or curing his diseases, but by what really amounts to the same thing—protecting his food-supply. Dr. Edington, Bacteriologist to Cape Colony, South Africa, whose interesting results in Texas fever were noted in a recent letter, announces the discovery of a parasitic fungus highly fatal to locusts and with which he has succeeded in almost clearing several farms and gardens of these pests.

As you already know, Lawson Tait died suddenly at his home, on the Welsh coast, on June 13th in the fifty-fifth year of his age. No recital of his triumphs and his services to surgery is needed, for his name has been a household word in the entire English-speaking medical world for twenty years past. In spite of many eccentricities and even "defects of his virtues," Lawson Tait was a genius, a reformer of the fighting type, and sincerely devoted to the interests of the profession—as he understood them. His work in abdominal surgery will remain a permanent monument to his memory of which any man might be proud. The surprising thing is that he could have written his name so high at such an early age and in spite of what the French aptly term his "difficult" temperament. An Ishmaelite of the Ishmaelites, he fought and flouted both antisepsis and vivisection, and yet his superb results by purely aseptic methods did much to turn the current of professional thought in the direction of this higher step. His curt reply to the German surgeon before the days of antisepsis who visited him, and asked the secret of his success, "I keep my finger-nails clean, sir!" accompanied as it was by a glance at the "mourning"-tipped fingers of his visitor, will live as the aseptic theory in a nut-shell.

The Anglo-American *entente cordiale* continues to flourish. Last week's *British Medical Journal* devoted an editorial to a notice and cordial commendation of the report of our Minnesota State Board of Health, and expressed its regret that the multiplicity of health authorities in London prevents its sanitary system from even approaching the scientific uniformity and efficiency of the Minnesota plan.

The sanitary situation in London is really becoming a serious one. From time immemorial the world-capital has been divided, upon the most irrational of principles, into "parishes" based upon the area of influence of the great churches, each ruled by its "vestry," whose intelligence and progressiveness may be imagined, each of which was absolutely independent and practically responsible to no higher power. Some thirty years ago these bodies made a sort of working-compromise, of the makeshift order, by appointing a Metropolitan Board of Works in whose care the streets, parks, and a few other universal interests were placed. About ten years ago this was further improved upon by the new London County Council, which has done yeoman service for sanitary reform, but now Mr. Balfour's precious new London Local Government Bill proposes to relegate sanitary matters again to a lot of newly created "boroughs," so that the County Council has formally refused to take even badly needed sanitary steps, such as the appointment of additional meat-inspectors, etc., on the ground that it does not feel justified in making any large expenditures on schemes which will be entirely upset in less than two years when the new boroughs come into power.

Major Donald Ross began his lectures on the "Extrication of Malaria" at the Liverpool School of Tropical Medicine last week, and an investigation expedition is to start from this progressive little school no later than August for Sierra Leone on the west coast of Africa. Score another point for the superiority of private over government enterprise! Indeed the word seems a mockery in its last connection. The London Government School still "expects" to be open in October, although half the staff of its hospital has resigned on account of discourteous and dishonorable treatment.

The Commission of Experts appointed by the government has completely disposed of the silly charges against the milk from the Aldershot sewage farm which, as we intimated in a former letter, rose solely out of the jealousy of competing local dairymen.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

COLOTOMY FOR MEMBRANOUS COLITIS—TREATMENT OF ABSCESS IN THE ANTRUM—HEMORRHAGIC ERYTHEMA IN A CASE OF BRIGHT'S DISEASE—REMOVAL OF SUBCLAVIAN ANEURISM—TREATMENT OF GONORRHEAL SALPINGITIS—DECLINE OF TYPHOID FEVER IN THE NETHERLANDS.

AT the Clinical Society of London, May 12th, WHITE and GOLDING BIRD contributed a paper on right colotomy for chronic colitis, the object of the operation being to give the colon perfect rest. Three cases were mentioned, the first that of a lady, aged thirty-six years, who had had membranous colitis for twenty years. She was wasted, a complete invalid, and almost unable to take food, or any exercise. Right lumbar colotomy was performed in two stages, with a six-day interval, and the fistula allowed to remain open for a year. Six months after its closure the patient was perfectly well, eating ordinary food, and taking out-of-door exercise. Two other

more recent cases were reported, in which right lumbar colotomy was performed with excellent result. The fistulae were still open. Right-sided colotomy was therefore recommended for: (1) intractable membranous colitis; (2) all forms of chronic ulceration of the colon that had resisted medical treatment, and which were obviously otherwise incurable. Most cases of very chronic dysentery were probably to be cured without colotomy. (3) Cases of idiopathic dilatation of the colon. The colotomy must be right-sided, and colotomy is preferable to cecotomy, for when the latter operation was done fluid feces escaped from the artificial anus, and this gave rise to much trouble; while, further, it was difficult to prevent some feces passing on into the colon. More experience is needed to determine the length of time which the bowel should be left open, but certainly six months should be the minimum.

THOMSON mentioned a case of empyema of the maxillary sinus which had existed for two and possibly for seven years, and which had been completely cured in eight weeks by drainage through a tooth-socket. A drill was used to open the sinus, and a drain was employed. The only other treatment was a daily washing with an alkaline antiseptic solution. This simple method of treatment, first employed by Cowper more than 200 years ago, has lately been described as futile in long-standing cases.

OVELL and EVANS said that the simpler operation should be tried first; but that in a minority of the cases it was unsuccessful on account of the polypoid growths in the antrum. In such cases treatment consisted in freely opening the antrum through the canine fossa so that the cavity could be inspected and the growths removed; and in two instances a counter opening was made through the inner wall of the antrum at the level of the floor of the inferior meatus. The cavity was first packed with iodoform gauze, and afterward treated with antiseptic irrigation. All of the patients that had been so treated by them had been cured except one, and he had been greatly benefited. They also reported a case of malignant disease of the antrum, in which suppuration was the only symptom noted, and in which the presence of a tumor in the antrum was not suspected until the opening had been made through the bone. Subsequently the superior maxilla was successfully removed.

May 26th, FOX related an instance of hemorrhagic erythema in a case of Bright's disease. The patient, a woman, aged sixty-one years, suffered from an acute trouble supervening upon a long-standing affection of the kidneys. The hemorrhagic symptoms referred to were: injected and swollen fauces, some erythematous maculae on the face and a few petechiae on the legs. Five days later a generalized eruption of a macular type made its appearance. The macules were slightly raised, with a tendency toward rapid centrifugal extension. Their size varied from that of a pin-point to a diameter of half an inch or more. They soon became confluent. The color was a vivid red, not affected by pressure. The older lesions had purple borders and bluish-red centers. The hands and feet of the patient were edematous, and the affection looked like a severe purpura. Later the lips were swollen

and blood stained, and there were a few spots on the gums. The lesions became increasingly hemorrhagic and the patient died seven days after the general eruption began. The trachea, bronchi, stomach, and colon were intensely injected, and in the small intestine there were, besides, numerous hemorrhagic areas. The kidneys were small and granular. No micro-organisms were discovered. The eruption was thought to correspond clinically with the roseola of Willan, rather than with erythema multiforme. The speaker's experience with eruptions in nephritis led him to look upon them as heralds of approaching death. They were either of the type of Willan or morbilliform in character.

ALLINGHAM reported a case of aneurism of the right subclavian artery. The vessel was ligated in its first portion, and thirty-eight days afterward the aneurism was successfully removed. The patient recovered good use of the arm, although two-thirds of the clavicle had been taken away. It was interesting to observe that pulsation returned in the radial artery within twelve days of the time of ligation. Hence the importance of removal of the sac in these cases.

DUCKWORTH said that he was treating a similar case in which he had considered operation, but postponed it in order to try the effects of rest, restricted diet, and iodid of potash. The aneurism was consolidating and shrinking, so that it seemed still unnecessary to perform an operation.

SYMONDS mentioned a case in which he had attempted to ligate the first portion without removing the clavicle. On passing the needle under the vessel alarming hemorrhage was produced. When the needle was withdrawn the bleeding ceased. He therefore tied the innominate and common carotid simultaneously. So far the patient had done well.

At the British Gynecological Society, May 11th, TAYLOR read a paper on the treatment of gonorrhreal salpingitis. A large number of women who are suffering from tubal disease have been at some time or another exposed to the infection of syphilis as well as of gonorrhea; and they undoubtedly show marked improvement after a prolonged course of mercury and iodids, and in the course of this treatment, unless acute pyosalpinx intervenes it is the rule for all gross physical signs of disease to slowly and permanently disappear. Acute pyosalpinx is peculiarly liable to occur on the left side of the body, probably as a result of secondary infection from the rectum. Such cases, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus-cavities from the pouch of Douglas, and by iodoform-gauze drainage. The older operation of removal of the appendage is not only much more dangerous, but is peculiarly liable to be followed by fecal fistula and operation-sequel sometimes worse than death itself. If the recovery is not complete, relapses following the operation should be followed by a course of specific treatment, the beneficial result of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed. Occlusion of the tubes and peritubal adhesions consequent on gonorrhreal

salpingitis have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis, which has been caused by salpingitis. Their absorption and disappearance will not therefore be secured by the cure of the gonorrhea, and sterility may persist, although gonorrhea may be entirely eradicated from the system. In gonorrhea of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. In these cases, vaginal hysterectomy, with or without removal of the appendages, is not only the most rational operation in theory, but is productive of the best final results.

At a meeting of the Epidemiological Society, held May 19th, SALLET read a paper on typhoid fever in the Netherlands. He showed that while the general death-rate per 100,000 from all diseases had declined by 14 per cent. since 1872, and that for tuberculous disease by 16 per cent., that for typhoid fever had declined by 63 per cent. The mortality in the towns from typhoid fell 72 per cent., while in the rural districts it had fallen only 60 per cent. The improvements in sanitation seemed to him insufficient to account for this great decline in the mortality in typhoid, while the decline in other diseases was far less. He suggested that the progress of medical science had far more to do with it than was generally admitted. This theory would explain the greater decrease in the urban centers, than in the rural districts, although the latter would naturally be freer from communication of infection, by the better medical facilities offered the inhabitants of the cities.

NOTTER remarked that the stationary character of the population of the Netherlands would favor their acquisition of a degree of immunity. In India the extreme susceptibility of recently arrived Europeans is notorious while with each year of service there is a rapid increase in their power of resistance.

SOCIETY PROCEEDINGS.

THE AMERICAN SURGICAL ASSOCIATION.

Abstract of the Proceedings of the Twentieth Annual Meeting, Held at Chicago, May 31, June 1 and 2, 1899.

THE Association met in the Hall of the Chicago Medical Society, and was called to order by DR. W. W. KEEN of Philadelphia. PROFESSOR DE LASKIE MILLER of Chicago delivered an Address of Welcome, which was responded to by the President. Dr. KEEN then delivered his address. He selected for his subject "The Technic of Laryngectomy."

He began by saying that he has been ill satisfied with the usual technic of laryngectomy, and, as in a recent case, he adopted a method which rendered the operation one of simplicity, caused but little loss of blood and little shock, and avoided the danger of aspiration pneumonia, he ventured to bring it before the Association in the hope that it will be tested by others so as to determine its real value. Instead of being a very severe and dan-

gerous operation, as it has hitherto been regarded, he hoped this will place it in the category of safe operations.

Nearly all authors, whether surgeons or laryngologists, speak of the operation as an extremely severe and dangerous one, and this view is warranted by its past high mortality. The causes of the mortality are chiefly: (a) Weakness of the patient by reason of the disease, the poor aeration of the blood, and the entrance of septic discharges from the diseased larynx into the lung before the operation; (b) shock, including hemorrhage during the operation, and (c) after the operation, septic pneumonia, due to the aspiration of infected wound-fluids. This is the greatest danger of all. The sources of these wound-fluids are twofold: first, the tracheotomy wound, if, as is usual, tracheotomy has been done; and, secondly, the wound left by the removal of the larynx. These wound-fluids are usually infected from the food, the secretions of the mouth, and the packing by iodoform gauze which renders primary union impossible.

While the method which he was about to describe does not obviate the weakness or any other unfavorable influence from the general condition of the patient prior to operation, it minimizes the other causes of death, and especially the possibility of pneumonia.

He could not claim originality for any one of the steps, for they have all been employed, he believed, by others. Thus Bardenhauer closed the communication between the trachea and the pharynx, but he only kept it closed until the wound became covered with granulations, and complications were no longer to be feared, say fourteen days. The communication was then reopened for the insertion of an artificial larynx. After adopting this method he had had four recoveries, while by the former method he had had four deaths. Cohen united the stump of the trachea to the skin, one of the most important improvements in the technic, since it prevents in a large measure the access of wound-fluids to the lungs. Other surgeons also have used the Trendelenburg posture, etc. But as a systematically planned operation, combining many advantages, the present technic as a *tout ensemble* may be called original.

1. The general preparation of the patient is the same as for any other operation.

2. *Preliminary Disinfection.*—As in all cases about the mouth, nose, pharynx, and larynx a systematic attempt is made for two or three days beforehand to secure at least partial disinfection. While partial disinfection is not as good as complete, yet the results in treatment of fractures of the base of the skull, in the extirpation of rectal tumors, etc., shows its great value. The teeth are very carefully cleansed by the toothbrush. If there are any old stumps of teeth present it is better that they should be extracted, and the operation deferred a few days until these dental wounds heal. For two or three days before operation every two hours, when the patient is awake, the mouth and each nostril is sprayed separately with a solution of boric acid, listerin, or both.

3. *Tracheotomy.*—Nearly all authors recommend a tracheotomy, either as the first step of the operation or more frequently ten to fourteen days before operation.

In the few cases in which dyspnea is great the author would be disposed to do a tracheotomy, say two weeks before the laryngectomy; not, however, with a view of preventing the entrance of blood and wound-fluids into the lungs by the introduction of a tampon cannula, but for the purpose of improving the general condition of the patient.

4. Posture.—The entire operation, after the trachea is invaded, is performed with the patient in the Trendelenburg position. The speaker was persuaded that the majority of surgeons do not appreciate to its full the advantages which this posture possesses in all operations about the upper air passages. As he had pointed out in a previous paper, he employs it in epithelioma of the lip, in extirpation, or other operations on the upper and lower jaw, in removal of the tongue, in cleft palate, in operations on the tonsils and pharynx, and all similar operations. Blood will not run up hill any more than water, hence, if the surgeon employs this posture in laryngectomy he avoids one of the chief reasons for tracheotomy and the employment of a tampon cannula.

The disadvantages of tampon cannulae are very great. Kocher, like himself, has lately dispensed with them entirely. The three most commonly used are those of Trendelenburg, Hahn, and Gerster. Of the three Gerster's is distinctly, in his opinion, the best. It can be more accurately adapted to larynges of varying sizes, and is much less likely to injure the parts either by undue pressure or by difficulty of introduction.

5. Anesthesia.—This is carried out at first through the mouth, and is continued until the larynx or trachea is invaded. A large tracheotomy cannula (12 millimeters in diameter) is then introduced and held in place by disinfected tapes tied around the neck. The inner tube of this cannula is removed and the metal tube of a Hahn cannula, which precisely fits it, introduced. A rubber tube connects this with the ordinary funnel for the administration of chloroform.

The essayist described the operation in detail, and then spoke at length regarding the after-treatment. The patient is kept in the Trendelenburg position by placing a chair under the foot of the bed. This posture prevents any wound-fluids from running down (or rather up) into the lung. This position is to be maintained for one day. On the second day the bed is lowered to the horizontal plane. On the third day the patient is allowed to sit up in bed on a bed-rest; on the fourth, to get out of bed and sit in a reclining chair, and on the fifth day he may walk about the room.

For two days nutritive enemas only are to be used. After that a teaspoonful of liquid food is given, at first every half hour, always followed by a tablespoonful of sterile water to wash away any food that might possibly leak into the laryngeal wound. At the end of a week full diet as to quantity may be given, but no solid food is to be given until the tenth day. No catheter or esophageal tube is required. On the day after the operation the small gauze drain is to be removed. Half of the stitches may be taken out on the fourth day, and the remainder on the sixth day.

The only objection to this method which occurred to the author is that it absolutely precludes the use of any artificial larynx. But the possession of voice is nothing when compared with a speedy recovery and a greatly diminished danger of a fatal result. Rutsch believes such a larynx is very unsatisfactory.

At the conclusion of the president's address a symposium on "The Surgery of the Spanish War" was taken up. The first paper was read by DR. NICHOLAS SENN of Chicago, and was entitled, "The First-aid Package in Military Surgery." He stated that two things were brought out clearly during the Greco-Turkish War, namely, the value of a first-aid antiseptic occlusive dressing in the prevention of wound infection, and the importance of immediate immobilization of compound gunshot fractures. He suggested the following first-aid package for field use and emergency work: Two pieces of lintin, a form of compressed cotton, four inches wide and sixteen inches long, sterilized and folded twice lengthwise; a teaspoonful of borosalicylic powder in a small waxed aseptic envelope; between them a piece of sterile gauze, forty-four inches square, with two safety pins, folded to corresponding size with the lintin compress; all of these articles wrapped in tin foil; two strips of rubber adhesive plaster an inch wide and eight inches long, the whole to be sewed in an impermeable canvas or linen cover. In using the package the powder is applied to the wound, the linten used as a compress being held in place by the strips of adhesive plaster, and the gauze bandage placed over it. If two wounds are to be dressed at the same time, as is usually the case in modern warfare, the contents of the package are equally divided and used, which can be done without materially impairing the efficiency of the dressing. The slight hemorrhage in wounds inflicted by the small-caliber bullet will soon saturate a part of the dressing, which by evaporation will soon convert the antiseptic powder and the cotton into a dry antiseptic crust, the very best protection for the wound against infection. Many military surgeons have expressed themselves recently as being opposed to the employment of the first-aid package by any one except medical men. This position the speaker thought will be found untenable during any great war, when the number of wounded would greatly exceed the working capacity of the limited number of surgeons. In summarizing the following conclusions were emphasized:

1. First-aid packages are indispensable on the battlefield in modern warfare.
2. The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform or on the inner surface of the cartridge or sword belt, so as to be of no inconvenience to the soldier or in conflict with military regulations.
3. The Esmarch triangular bandage is of great value in the school of instruction, but in the first-aid package it is inferior to the gauze bandage.
4. The first-aid dressing must be applied as soon as possible after the receipt of the injury, a part of the field service which can be safely entrusted to competent hospital-corps men.

5. The first-aid dressing, if employed behind the firing-line, should be applied without removal of the clothing over the injured part, and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.

6. The first-aid dressing must be dry, and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion.

7. The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing-station.

A paper, entitled "The Battle-ship in War," was read by DR. N. M. FEREBEE, Medical Inspector of the United States Navy, Norfolk, Va. He described a modern battle-ship, spoke of the preparations for, and the conditions during, war. He also narrated his experiences with modern rifle-bullets and with shells, and closed his paper by detailing interesting cases.

"The Organization and Equipment of Military Field Hospitals" was the title of a paper read by DR. GEORGE R. FOWLER of Brooklyn. Under the head of organization the essayist dealt with executive offices, dispensary, property office, post-office, quartermaster's office, commissary office, medical ward, surgical ward, operating-tent or pavilion, pathological and bacteriological departments, cooking department, diet-kitchens, sanitary and disinfection departments. In referring to location and arrangement, he spoke of the importance of selecting a suitable site, and then dwelt upon soil, drainage, arrangement of the wards, sinks, and emphasized the importance of cremating garbage and typhoid excreta.

In referring to equipment, he spoke of tentage, pavilions, furniture, linen, medical supplies, anesthetics, antiseptics, instruments, sterilizers, operating-tent furniture, ligature and suture materials, dressing materials, splint materials, and transportation facilities. Lastly, he dwelt at length upon the personnel, which comprises executive and administrative officers, professional staff, ward officers, operating-staff, ophthalmologist, aurist, and dentist.

DR. CHARLES B. NANCREDE of Ann Arbor, Mich., followed with a paper on "The Effects of Modern Small-arm Projectiles as Shown by the Wounded of the Fifth Corps." Reports show that about 1400 wounded were cared for at the hospital with which he was connected, for nearly all of the injured in this corps who survived for twenty-four hours sooner or later passed through their hands, so that flesh wounds, and those of a day to a week or more, were observed. Flesh wounds were always of a trivial nature, unless the ball became deformed by striking some extraneous object or when stripping its mantle, as it sometimes did. This immunity enjoyed by the flesh wounds caused by Mauser and Krag balls resulted, first, from the slight amount of contusion caused by the rapidly moving ball; second, the aseptic condition of the ball, and, third, the rarity of the carriage of fragments of clothing into the wound, as was not uncommonly done by the forty-three-caliber Remington, brass-mantled balls. If maintained aseptic, the majority of

flesh wounds healed almost as if they had been incised wounds, not uncommonly cicatrizing under the primary field dressing made with the first-aid package.

Contusions, or slight wounds of the great vessels leading to so-called traumatic aneurisms, or aseptic or septic sloughing of the vessels many days after the receipt of the wound, were far from uncommon. Thus, he saw one wounded subclavian where the patient survived over three weeks, to finally succumb to hemorrhage during an attempt to ligate the vessel, which was torn for a long distance. He also knew of another dying on the table some weeks after being wounded during an attempt to secure the same vessel. He tied the common femoral for wounds and assisted a colleague in securing another, days after the receipt of the injury. He tied one radial for secondary hemorrhage, and ordered the tying of an ulnar for ball injury several days after their division, and was compelled to amputate an arm after failing to secure a bleeding brachial in an apparently aseptic wound two weeks after the man had been shot.

The greatest advance in military surgery on the battlefield in recent times is the first-aid packet, and the greatest boon conferred on the wounded soldier has been asepsis and antisepsis, because in the majority of instances rendering his injuries so painless and their complications so slight that even anesthetics no longer occupy the chief place as a blessing to the wounded, because comparatively rarely needed.

DR. M. H. RICHARDSON of Boston read a paper on "Appendicitis; Should Every Patient Be Operated upon as Soon as the Diagnosis of Appendicitis Is Made? Should the Appendix Be Removed in Every Case?" At the bedside, in a specific case of appendicitis, there would be doubtless little difference of opinion among even those surgeons who seem to differ materially in the expression of their views. What one may describe as a severe case another may regard as a mild one; what one may consider a hopeless infection, another only a desperate one, and so on. The conclusions arrived at are the result of experience in 904 cases, personally observed and treated, and of personal observation of many others in the practice of hospital colleagues. In 259 cases of operation in acute cases 72 patients died. Four of these deaths were in the hands of other surgeons. In 189 acute cases operation was not performed; of these, 31 patients died.

Many of these fatal cases were desperate ones. All were severe. The mortality in acute cases without operation was fully 31 in 189 cases. In practically all of these fatal cases the patient was moribund and the case hopeless when first seen.

The most important question is not whether to operate in appendicitis, but rather when to operate. In view of the great mortality after operation in severe cases; of the disadvantages following the drainage necessary in septic cases, weakness of muscles, stretching of scars, hernias, and the like, the best time to operate is during the period of perfect health following the attack. In a large percentage of acute cases recovery from the acute attack will take place, and operation can be safely performed through a small incision which will not weaken the abdominal

wall. After the initial stage the question of intervention becomes more difficult when observed for the first time on the second, third, or fourth days. In severe cases the patient should be operated upon at once, unless he is improving so rapidly that there is a strong expectation of complete recovery. Intervention is still more strongly indicated if the symptoms are increasing in severity. Operation is indicated, too, if the symptoms after marked improvement recur. In the consideration of symptoms after the early hours, the character and extent of pain, tenderness and rigidity are important as determining the width and depth of the area of infection. The constitutional signs are less reliable than the local; they may be deceptive guides.

The chief objection to operating in every case is the danger of converting a localized into a general infection. If the patient is improving, with a successfully localized peritonitis of considerable extent, especially if centrally localized, as in the pelvis, operation should be postponed until intervention can be safely practised, because these cases, in the absence of general peritonitis, are the most dangerous ones. An attempt should always be made to remove the appendix whenever the peritoneal cavity is opened unless the patient's condition forbids prolonged search. In many cases of abscess with firm walls a slough will be found which on examination will prove to be a necrosed or exfoliated appendix. In such cases no subsequent operation for removal of the appendix will be necessary. If, after recovery from simple drainage in acute appendicitis, there is evidence of renewed appendicular trouble, the appendix should be removed, the scar of the original wound incised, and the wound carefully closed. The operation is especially desirable if there is hernia in the scar or even stretching or discomfort. Hernia of itself after all operations for acute appendicitis should be operated upon if it causes discomfort or disability. In very rare instances there may be a recurrence of infection in the region of the ileocecal valve, even after removal of the appendix.

The discussion on Dr. Richardson's paper was opened by DR. JOHN B. DEAVER of Philadelphia who said that the paper had brought out many points on appendicitis about which an active warfare had been waged for some years. Upon the surgeon's individual decision at the bedside often depends the life of the patient, and in every case the very points about which the paper dealt have to be faced and a decision made. As to the question: Should every patient be operated upon as soon as the diagnosis is made? his answer was yes, with two exceptions: first, in cases of acute active general peritonitis; second, in collapse. Should the appendix be removed in every case of appendicitis? Yes, with the exception of those cases in which the bowel forming a part of the abscess wall has undergone necrotic changes rendering the bowel friable and apt to rupture during the necessary manipulation.

Dr. Richardson had most wisely divided his first heading into two classes: those in which the diagnosis has been made in the early hours (and the speaker took it for granted that he meant within twenty-four hours), and

those in which a diagnosis is made after this period of time had elapsed. In answer to the first question, Dr. Deaver asserted most emphatically that the early hours is the time *par excellence* for operation in this most serious of intra-abdominal affections, first, because practically all patients operated upon at this time get well, or at least give the lowest mortality, this mortality increasing with the interval between the onset of the attack and the time of operation. Thus, of 18 patients operated upon within the first twenty-four hours, only 1 died, a mortality of 5.5 per cent. In 30 acute cases, on the other hand, in which the patients were operated upon within forty-eight hours, 10 died, a mortality of 33.3 per cent. As far as his experience goes, a careful examination of the statistics of acute cases convinces him that the local pathological changes reach by progressive stages their severest limit within the first forty-eight hours, and after that period the changes are more in the nature of sequelæ following the primary stage of infection. Second, the percentage of individuals that have one attack and then remain perfectly well and free from other attacks is very small. Of 460 in his own experience 312 had more than one attack.

Should one operate when the diagnosis is made after the early hours, if the symptoms are severe? His experience has led him to the belief that symptoms are very unreliable and are not in proportion to, nor do they indicate the severity of, the pathological processes which are taking place in the belly. Many times he has opened the belly of a patient with a normal temperature, flat belly walls, and a quiet retentive stomach, in whom tenderness on deep pressure was the only sign of persistent trouble, and has found pus or a gangrenous and perforated appendix. The surgeon who waits in the case of appendicitis for the appearance of severe symptoms, or, worse yet, waits for an indication to operate until the symptoms increase in severity will have many unnecessary deaths to his credit.

Should the appendix be removed in the case of localized abscess with firm walls? Success, under these circumstances depends upon the skill and the technic of the surgeon. The appendix should be removed, the only occasion for difference of opinion being as to the time of its removal, i.e., at the primary operation or at a subsequent operation. If the appendix can be removed at the primary operation without additional risk to the patient, it seemed to the speaker that this is the time of election. That it can be done without additional risk has been repeatedly demonstrated, and in his own practice he does it in nearly all cases, because in 257 primary removals his death-rate in the past has been 16.7 per cent., and in 13 secondary removals the death-rate was 30.7 per cent. The reasons for the removal under these conditions are that surgeons do not subject their patients to the danger of an attack of acute appendicitis occurring before the secondary operation. There is less likelihood of fistulae, either fecal or simple. The patient is cured with one operation instead of two, with the consequent saving of a variable period of invalidism. The appendix can hold but one of a few positions. It must be either post-cecal, pointing into the pelvis toward the spleen, or confined in the ileocolic, or subcecal, or ileocecal fossa. If it is embedded in exudate,

the exudate itself will indicate its position. He agreed with the essayist as to the necessity of the ultimate removal of the appendix, differing from him only as to the length of time before the complete operation is performed.

DR. CHRISTIAN FENGER of Chicago endorsed in the main nearly everything that Dr. Richardson had said. He, however, disagreed almost entirely with the views expressed by Dr. Deaver.

DR. FRANCIS B. HARRINGTON of Boston thought there was very little difference of opinion between Dr. Richardson and Dr. Deaver. He said that Dr. Deaver did not operate in every case; he considers the condition of the patient. If the patient is in collapse, he waits, and so do all surgeons. It is better to wait not only in cases of collapse, but in other instances. He likes to remove the appendix in every case in which it is possible to do so. On the other hand, there are certain conditions in which he is inclined to wait perhaps twelve or twenty-four hours, or even longer, before operating.

DR. JOSEPH RANSOHOFF of Cincinnati thought the doctrine advocated by Dr. Deaver would do a great deal of harm if followed by most men who operate upon patients with appendicitis. An important point to remember is that five-sixths of the operations for appendicitis are performed by general practitioners, men who have had very little experience in handling the intestines, in dealing with abscesses within the cavity of the abdomen, etc.

DR. NICHOLAS SENN of Chicago said that uniformity of practice in the treatment of appendicitis would probably never prevail. Each man formulates his own indications and follows his own rule of practice. Personally he felt weakest in making an early diagnosis in the first attack.

"Nephrectomy versus Nephrotomy" was the title of a paper by DR. JOSEPH RANSOHOFF of Cincinnati, Ohio. He said that renal surgery is essentially the product of the past twenty years. The occasional operations on the kidney performed before that time paved the way for a clearer appreciation of the conditions demanding operative relief. Improvements in the method of examination, and the consequently greater accuracy in diagnosis, the recognition of the early gross changes wrought by disease, as seen by operation rather than by autopsy, and the comparative safety of incisions through healthy kidney tissue have brought to the fore the element of safe conservatism in the domain of renal surgery. Several interesting and instructive cases of pyonephrosis were reported. Nephrotomy, *per se*, is doubtless an operation nearly devoid of danger. When performed on a healthy kidney, as for stone, the mortality is less than 5 per cent. When performed for suppurative diseases, the mortality rises. He had tabulated records of 78 nephrotomies for pyonephrosis exclusive of tuberculosis published within the last three years from various clinics. Of these 78 nephrotomies, 17 were followed by death, a mortality of 21.8 per cent. In the hands of some surgeons the mortality has been very large. Four out of 5 cases were fatal in the Vienna clinic. Out of 6 cases of nephrotomy at the Roosevelt Hospital 3 patients died. On the other

hand, Israel lost only 1 patient out of 8, and Thornton 1 out of 12. From the same sources he had tabulated 37 primary nephrectomies with 9 deaths, giving a mortality of 24.3 per cent., and 17 secondary nephrectomies, with 7 recoveries and 10 deaths, a mortality of 58.8 per cent. The advantages of nephrotomy for pyonephrosis are obvious: First, it is an operation readily tolerated even in patients greatly reduced by fever. Second, it permits the surgeon to determine the condition of the opposite kidney. Third, by it the saving of even a small amount of functioning kidney tissue may throw the balance in favor of recovery. In dealing surgically with a pyonephrotic kidney, statistics can guide the operator only in a general way in the choice between nephrectomy and nephrotomy. Nephrotomy is indicated in pyonephrosis, first, when the condition of the opposite kidney cannot be ascertained; second, when the reduced condition of the patient will not permit the major operation if this is indicated. The nephrotomy is then but the preliminary step, to be followed by nephrectomy as speedily as possible. Third, when the operation reveals the presence of considerable kidney tissue, and an approach to the normal on the part of the pelvis and proximal portion of the ureter. Here a ureteroplasty may avert the need of nephrectomy. Fourth, when there is evidence or suspicion of disease in the other kidney.

Primary nephrectomy is indicated, first, when there is a sound second kidney. Second, when inspection of the exposed kidney shows many or large pouches that cannot be successfully drained. Third, when there is a little kidney tissue left. Fourth, when an examination of the pelvis and proximal portion of the ureter makes it reasonably certain that a return to the normal cannot take place. Fifth, in para- and perinephric suppurations where the kidney acts as a valve, impeding successful drainage. (Israel.)

DR. FRANCIS B. HARRINGTON of Boston then read a paper, entitled "Hernia Following Operations for Appendicitis." He had made a personal examination of the condition of the abdominal wall in 236 cases of appendicitis in which operation had been performed at the Massachusetts General Hospital by various surgeons. The subjects represented all varieties of the disease. The period which had elapsed since operation varied from nine months to nine years. No case was included in which operation had been performed since July, 1897. Total number examined, 236; males, 190; females, 46; 27 true hernias in all—11½ per cent.; 21 true hernias in males—11 per cent.; 6 true hernias in females—13½ per cent. Eighty-five wounds closed at the time of operation, 3 hernias, 3½ per cent.; 85 wounds partly closed at the time of operation, 11 hernias, 12½ per cent.; 63 wounds left entirely open at the time of operation, 13 hernias, 20 per cent. If with these cases of true hernia are included 10 cases of punctiform hernia and 53 cases of more or less bulging in the scar which did not constitute true hernia, the following percentage of weak scars is noted: in 85 closed wounds, 6 per cent.; in 88 partly closed wounds, 51 per cent., and in 63 open wounds, 62 per cent.

An opening between muscles or tendons or both could be detected in the scars: In 85 closed at the time of operation, 26 per cent.; in 88 partly closed at the time of operation, 83 per cent.; and in 63 open wounds, 87 per cent. There was general abdominal bulging in 85 closed incisions, or 7 per cent.; in 88 partly closed incisions, 45 per cent., and in 63 open incisions, 46 per cent. During the period in which these patients were operated upon, that is, from 1888 to 1897, some of the muscles or tendons were cut at right angles to their fibers in the acute cases, and often in the cases in which the wound was tightly closed at the time of operation. The writer advocated the use of an enlarged McBurney incision in all acute cases, which obviates the cutting transversely of any muscle or aponeurosis.

DR. ALBERT VANDER VEER of Albany, N. Y., followed with a paper on "Some Unusual Cases of Appendicitis with Complications." Operative surgery, in its relation to the appendix, will ever present rare and unusual cases. This was brought out strongly last year when the president of the Association and others detailed the histories of some very unusual lesions of the abdomen. Surgeons may examine their patients with ever so much skill, employing diagnostic intelligence to the best advantage, yet when they enter the peritoneal cavity they must be prepared for surprises. From the knowledge acquired from these isolated and rather rare cases it is more possible to increase the percentage of recoveries. A hernial sac with the appendix therein is not particularly rare, but to find it with a foreign substance like a pin, immediately in the appendix, and not having caused trouble, is somewhat unusual. To operate for the relief of femoral hernia and find not only the appendix, but a prolapsed bladder in the female, is certainly decidedly rare. The essayist then detailed eight somewhat unusual and complicated cases.

DR. DUDLEY P. ALLEN of Cleveland, Ohio, presented a paper, entitled "Cases of Fracture of the Skull Followed by Recovery." He reported ten cases of fracture of the skull, all but one of them involving the base. The first five reported were fractures at the base of the skull without any injury to the vault. Of these, three of the individuals were rendered totally unconscious at the time of the accident, one was in a semiconscious condition, and the third, so far as could be ascertained, retained consciousness. Bleeding from both ears occurred in two of these cases, whereas in three of the cases there was bleeding at only one ear. Deafness in one case occurred in both ears at the time of injury. Whether in the other cases deafness occurred at the time of injury could not be definitely determined. In two of these cases, however, deafness was complete and permanent in one ear, and in one case the hearing was much impaired in one ear. Loss of smell was complete in one case and greatly impaired in one case. Paralysis of one side of the face occurred in two cases, in one of which it remained permanent. These five patients with fracture confined to the base of the skull are alive and well at the present time, except for the disabilities just described.

There were two cases of children who fell from heights

upon the vault of the skull, causing most extensive fracture and great deformity of the cranium. In one of these cases there was a great deal of hemorrhage from the ears. In both the scalp was lifted, the cranium was laid bare, and by means of a hook the fragments were raised to their normal positions. Both patients recovered. One, however, has impaired hearing in one ear.

Two patients received injuries in the frontal region extending into the base. In one of these there was extensive injury to the frontal bone and a large amount of bone and considerable lacerated brain tissue was removed. There was a fracture in this case extending across above the frontal eminence to the temporal fossa, upon the opposite side of the skull to that which received the greatest injury, and there was a fissure from the base of the skull extending from the frontal bone backward to the sella turcica. This patient had a large cerebral hernia. In the other case the injury to the frontal region and the involvement of bone was small.

The point of interest in the latter case was the temperature, which rose gradually at two different periods to 105° F., the case presenting many of the symptoms of typhoid fever with relapse. The other characteristic symptoms of typhoid fever were, however, entirely lacking, and the presence of optic neuritis, indicating probably a basal meningitis, placed the diagnosis of the cause of fever in considerable doubt.

The tenth case was one of severe injury in the region of the right parietal bone, followed in some weeks by impairment of mental activity, and also of motion of the right arm and leg. This was found to be due to a large subdural collection of blood on the left side, notwithstanding there was no evidence of injury on that side. The accumulated blood amounted to several ounces. It was removed and the patient is now well.

The following officers were elected for the ensuing year: President, Robert F. Weir of New York City; first vice-president, Charles B. Nancrede of Ann Arbor, Michigan; second vice-president, Edmund Souchon of New Orleans, La.; secretary, Herbert L. Burrell of Boston; treasurer, George R. Fowler of Brooklyn, N. Y.; recorder, De Forest Willard of Philadelphia; member of the council, W. W. Keen of Philadelphia. Place of meeting, Washington, D. C., in conjunction with the Congress of Physicians and Surgeons; time, May 1, 2, and 3, 1900.

NOTABLE BOOKS.

DAS BECKEN (THE PELVIS), VON W. WALDEYER.¹

THIS work on the pelvis by one of the greatest living teachers and investigators of anatomy cannot fail to attract wide attention. The subject is an important one. A complete and accurate knowledge of the anatomy of

¹ Das Becken. Topographisch-anatomische mit besonderer berücksichtigung der Chirurgie und Gynäkologie dargestellt von W. Waldeyer, M.D., Ph.D., Professor der Medicin und Director der Anatomi. Institute, Berlin. Bonn: Fr. Cohen, 1899.

the pelvis is essential not alone to obstetrics and gynecology, the topics first naturally thought of in this connection, but to the surgery of the rectum, the bladder, and the various lesions, so common in this region, of the bony and soft tissues.

Though written by a professional anatomist, the book is far from being a dry digest of anatomical details; it gives in condensed and very practical form all the scientific medical knowledge we have up to the present time concerning not only the structures contained within the pelvis and their relations, but also its external coverings. This work is consequently a most useful one for the material it contains, and the method of its presentation is worthy of its contents. Original illustrations have been made from specimens furnished by such distinguished specialists as Testut of Lyons, Devy of Paris, Fritsch, Gussow, Nagel, Nitze, Olshausen, Krause of Berlin, von Recklinghausen of Strasburgh, Gerota of Bucharest, and others. Altogether, the book is one of the most notable medical books of recent years.

Under the classification of pelvis there is a very complete and suggestive discussion of the differences that have been noted, according to race, age, and sex, and the value of these peculiarities as regards ethnology and anthropology, as well as the more practical questions that sometimes come up for decision in medico-legal matters. In the discussion of the shape of the pelvis attention is called to the fact that it bears a definite, readily recognizable relation to the shapes of the heads of the races in which the different varieties occur. Sir William Turner's terms for their classification which are analogous to the corresponding cranial terms in anthropology are adopted. The Dolicho pelvis, or long, oval pelvis, is found among the Australians, the Bushmen, the Hottentots, etc.; the mesati pelvis, or almost circular pelvis, among the Africans and the Tasmanians, and in New Caledonia and Melanesia; the platy pelvis, or broad, oval pelvis, is found among the Europeans, the Mongolians, and the Indians.

There is an excellent practical discussion of fractures and dislocations of the bones of the pelvis, and of tumors pertaining to this region both within and without the pelvis. Under fractures there is a report of a case that was found recently in the anatomical rooms of the University of Berlin in which the anterior bladder-wall had been forced into the space between the two fractured ends of bone as they sprung apart during the application of the fracturing force, and was retained there by the resilient pressure of the bony arches after the violence had ceased to act. It is a complication whose occurrence has been suggested on theoretical grounds, but this is, we believe, the first actual case reported.

Under the head of tumors external to the pelvis, comes the series of bursa that may in following a special trade or occupation become chronically enlarged in the pelvic region, or that may, after chronic enlargement has existed for some time, become infected and suppurate. There is the organ-grinder's bursa, the bursa subcutanea trochanterica, situated just over the trochanter, and which becomes enlarged because of the irritation set up

by the rubbing of the arm as it passes the hip in its frequent revolutions. There is the bursa subcutanea sacralis over the sacrum which enlarges in chimney-sweeps from the friction in ascending and descending chimneys. Then the bursa over the anterior superior iliac spines, which enlarges in weavers from the constant repeated impact of the "throw" of the loom. In English it is customary to call the enlargement of the bursa over the tubera ischiadicæ weaver's bottom (sometimes irreverently referred to by the medical student as student's bottom). Professor Waldeyer, however, reserves for this bursa enlargement over (or under) the ischiac tubercles the name of turner's (drechsler in German, i. e., woodturner or carver) bottom.

With regard to the bladder and its relations to the ureter and kidney, some recent interesting work from various sources mutually confirmatory of certain newer views in this matter is given. The possibility of liquid being forced from the bladder into the ureter and thence to the pelvis of the kidney is admitted. Under pathological conditions, as with an over-distended bladder, this is not so difficult to understand. But even with a not over-distended bladder, when that viscus is somewhat hypertrophied, and its muscular fibers have been irritated into an easily excitable condition, liquid may thus be forced backward in the urinary tract. In healthy animals this has been demonstrated experimentally a number of times, and by various observers. The importance of this can scarcely be overestimated, especially since we have of late learned that it takes but a comparatively slight amount of pressure in the renal pelvis above the general blood-pressure at the moment, to force the renal filter, and send back into the circulation excrementitious products.

With regard to the possibility of absorption in the bladder itself, Waldeyer rather leans to the view becoming so general of late that it does take place to a limited degree. He points to the spread of neoplasms along the vesicular-lymph channels as a confirmation of this view.

He considers that though morphologically the posterior urethra and bladder are one, this portion of the urethra must not be thought part of the bladder in the urinary function. The internal sphincter of the bladder has been observed to be closed even under high pressure in the bladder of the living animal. Urine that finds its way into the posterior urethra is extruded completely by the micturition reflexes set up. There is an interesting discussion of injections into the bladder by forcing the muscles of the anterior urethra. Rectal and uterine and vaginal tissues and functions are discussed in the same practical scientific manner.

REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in All Branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-Books, of the Leading American and Foreign Authors and Investigators. Collected and Arranged un-

der the general editorial charge of GEORGE M. GOULD, M.D. Illustrated. Philadelphia: W. B. Saunders, 1899.

SINCE the initial appearance of this Year-Book of Medicine and Surgery, in 1896, each succeeding volume has been received with even more favor than its predecessor. In these busy days it manifestly is impossible for the active practitioner to glean his knowledge of the rapid progress along special lines from the multitudinous publications issued for his benefit, and, therefore, it will be with a feeling of great satisfaction that he turns to this volume, in which he may find the facts boiled down and served with clear and concise editorial comments which add greatly to their value. In a weekly journal it is impossible to review in detail the many valuable features of a work of this magnitude; like all encyclopedias it must be studied by the individual in order that its many points of excellence may be brought out.

The data concerning typhoid fever and the Widal test is exceptionally complete. Regarding the latter the editors of the section sum up by saying: "Statistics show beyond question that the serum-test gives a positive result, sooner or later, in practically all cases of typhoid infection, and a negative result in cases in which typhoid infection is not present, and has not existed in the patient examined. . . . Another fact that must be recognized is, that the Widal reaction often fails during the first week of the disease, and sometimes much longer. Repeated examinations are necessary in every case." Continued good results from the Brand method are reported. The Woodbridge treatment is condemned, and statistics presented to show that its claims to abort an attack are not deserving of consideration.

The advances made in the prophylaxis and treatment of pulmonary tuberculosis are reported in considerable detail. Work done in connection with the production of an antitoxin against yellow fever is reported, as well as improved methods in diagnosis and treatment.

The review of the diseases of the stomach and intestinal tract is especially satisfactory. Under the caption, "Anesthesia," it is said that the records are strongly against the use of chloroform as a routine anesthetic. In 22,219 chloroform-administrations there were 14 deaths, while in 17,067 administrations of ether, or gas and ether, there was 1 death.

Halsted's method of intestinal anastomosis is graphically illustrated, as is that of Laplace. Modifications of the Murphy button are pictured and described. The X-ray in diagnosis is given a prominent place and all that is newest in connection with this invaluable agent recorded.

The remaining chapters are devoted to gynecology, pediatrics, pathology, nervous and mental diseases, orthopedic surgery, ophthalmology, otology, diseases of the nose and larynx, cutaneous diseases and syphilis, materia medica, physiology, legal medicine, public hygiene and preventive medicine, and physiological chemistry, and each covers the ground in a very complete and satisfactory manner.

The book contains 1102 pages, is admirably indexed,

and has a number of full-page plates, some in colors, and numerous illustrations in the text. Taken all in all it is invaluable in the special field which it aims to cover and the busy practitioner cannot afford to be without it.

**DIE TECHNIK UND DER COMFORT DER ERNAHRUNG.
(TECHNICAL METHODS OF CONVENIENTLY FEEDING THE SICK.)** Von DR. MARTIN MENDELSON, Privat-docent der inneren Medicin an der Universität Berlin. Leipsic: George Thieme, 1898.

THE author of this little brochure, which is a reprint from Leyden's well-known work on the diet and feeding in disease, has written some interesting books on the technics of nursing and other subjects, closely connected with the treatment of patients other than by drugs. The work under consideration deals with the proper preparation of food for the sick and the manner of giving it to patients. The temperature of the nutritive material and methods of keeping it at any temperature, a discussion of dry, soft, fluid, and solid diets, a description of apparatus for feeding the sick at any stage of convalescence, apparatus for changing the position of patients in bed, and a consideration of the patient's surroundings while eating are the topics which the author handles with evident knowledge and certainly with skill. The little book contains much that is interesting and much that is valuable, and is well illustrated.

THERAPEUTIC HINTS.

Treatment of Eczema by Ointments Containing Sugar.—

HODARA of Constantinople uses for cases of moist eczema, impetigo, ecthyma, subnasal sycosis, and other skin diseases of vesicular or pustular nature, an ointment of zinc oxide and sulphur containing sugar, the desiccative and keratoplastic properties of which he highly values.

| | | |
|-------------------|------------|----------|
| B. Sacchari pulv. | } aa . . . | Parts xx |
| Zinci oxidii | | |
| Lanolini | | |
| Vaselinii | | |

Sulphuris sublim. } aa . . . Parts x.

Glycerini }

M. Ft. unguentum. Sig. External use.

For subnasal sycosis he advises continuous application of the ointment to affected parts of the upper lip, and in addition repeated swabbing of the nasal mucous membrane with a solution of silver nitrate, at first one per cent, gradually increased to four per cent. As improvement advances the ointment may be used but once a day, but swabbing should be continued for a time after the cure is completed to avoid a relapse. Hodara has thus effected cures without epilation.

For seborrheal eczema of a psoriaform type he prescribes as follows:

| | | |
|-------------------|------------|------------|
| B. Sacchari pulv. | | Parts xx |
| Chrysarobini | | Parts i-ii |
| Glycerini | } aa . . . | Part x |
| Sulphuris sublim. | | |

Lanolini } aa . . . Parts xxx.

Vaselinii }

M. Ft. unguentum. Sig. External use.